

# EXCELLENT MANGA

## SKETCHING TECHNIQUES

COMPLETE MASTERY

vol. 1

Pretty Girl

Hikaru Hayashi (Go office) & Tsubura Kadamaru





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Hikaru Hayashi (Go office) & Tsubura Kadomaru

vol. **1**

Pretty Girl





## ■ About the author

### Hikaru Hayashi

Hikaru Hayashi was born in 1961 in Tokyo, Japan. His cartoonist career began when he was graduated from the humanities department of Tokyo Metropolitan University majoring in philosophy. He won the BUSINESS JUMP consolation prize and excellent works prize. He learnt from cartoonists Hajime Furukawa and Noriyoshi Inoue. He established his reputation with the memorable memoir cartoon AJA KONG Story. In 1997, he set up Go office, a cartoon design and production firm. He has published over 50 books of Cartoon Techniques in Japan and abroad.



◆ <http://www.go-office.jp/>

### Tsubura Kadomaru

Tsubura Kadomaru has been fond of painting since childhood. She served as head of the art club in junior and senior high schools. The art club is actually a cartoon society and Gundam seminar. She served as a guardian of the art club and its members. The art club has cultivated a group of active game and cartoon developers. She is in the heyday of image expression and modern arts. She is studying oil painting in the art club of Tokyo National University of Fine Arts and Music.

## EXCELLENT MANGA SKETCHING TECHNIQUES

Vol.1 Pretty Girl

by Hikaru Hayashi (Go office) & Tsubura Kadomaru

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## Preface

Drawing female figures is an everlasting theme in cartoons, animation and illustrations.

I looked up image websites on the Internet recently. I found out that professionals and amateurs are complaining it is difficult to draw the female body well.

Although there are not big distinctions between drawing female figures and male figures and other roles, this question continues to remain, because too many people enjoy drawing female figures.

In two dimensional space, female figures are expressed with curves, along with complex cylinders to reveal stereoscopic feelings. If we do not understand fundamental principles and compositions, we will certainly be unable to draw them well.

This book starts with the full-length portrait of figures, introducing how to draw up lovely faces of girls and bodies with female characteristics. We approach the issue from the whole to parts, and from parts to the whole. We illustrate them in the whole and part perspectives. This method might look difficult in the beginning. But by observing parts, we will have an intellectual knowledge of the whole, and inspire readers to ponder over the whole.

Observe and think, and draw on the basis of theories (re-composition and expressions) – this is the only way to improve drawing.

Drawings are made after thinking. Understand this, and we will make progress fast.

It will be wonderful if we look at issues neglected previously and issues to be scrutinized at a different angle.

We might lose some joys from spontaneous creation, if we think too much about detail first. But if we keep making spontaneous drawings, we will not make much progress no matter how long we are engaged in it (of course, it is important to draw following our instincts. But we need to differentiate between spontaneity and deliberation.)

Grasp forms, understand form connection (construction), deliberate on the art while drawing, and accumulate experiences. If one day, you are hit by the ideas “I do not know how to draw it well”, and “I want to draw it better”, you will have another door opened in front of you.

Start from here to draw up lovely figures of unique characteristics.

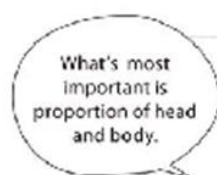
I hope this book may provide powerful help to the broad masses of cartoon fans.

Hikaru Hayashi with Go office

# The female figures are all pretty girls

The personalities of the female figures are expressed in subtleties. Therefore, when we meditate on designing female figures, we may present pretty girls of diversified manners through subtle changes in their details.





About 8.5-headed body



About 4-headed body

Leg length (root of thigh)



Shoulder breadth



Learn these "subtleties" with this book.



# Take on a new look through transformation (bodily change)

## Face

(head)

With transformation, the facial features of the figure instantly shine with splendid charms.



Basic type



Simplify a bit

● Shorten the facial form a bit, add more hair, and reduce hair lines. Compared with the basic type, the figure looks much younger.

Before the transformation



It fully follows the realism style before transformation, without incarnating the personality of the figure.



#### Improve it slightly

- Sharpen eyelashes and draw lips red. The figure becomes more mature.



Change hair style by designing it into two pony tails.



#### Change hair style (High pony tail)

- Maintain original technique to draw facial features, except for exposing forehead and ears, to create totally different impressions.

# No matter how it ends, the figure is drawn naked in base

## Body (Trunk)

It will end in unexpected failure to start with drawing clothes. Only do this with the figure's body when you have fixed the proportion of the body.



Body sketch



Draw the body first, and then add the clothes



It will end like this, if we draw clothes only following our instincts and subsequently adding gestures of hands and feet. We will draw the figure well only when precisely understanding how the whole body is connected, including facial features (head).



In drawing, we must be aware that clothes are wrapped around the body akin to cylinder.



The trunk, arms and legs are cylinder.

## ● The base is a naked body



In drawing the figure, we must take into consideration the body's contour line, integral structure, length of all parts, and their relations to the trunk.

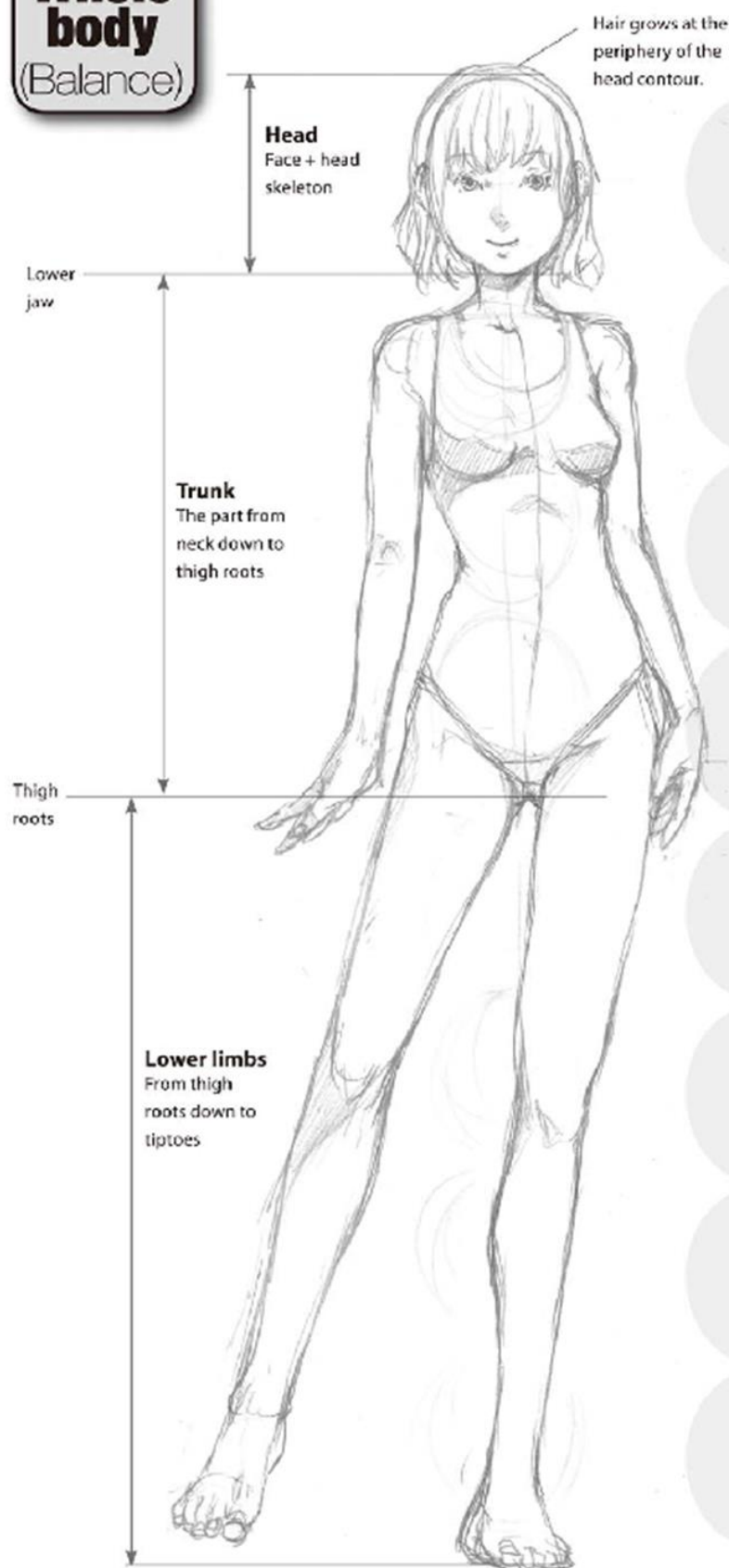


Before drawing clothes, we must fix the positions of shoulders, waist and thigh roots (referring to Practice in Drawing in page 36).



# The base of the naked body is proportional to the head and body

## Whole body (Balance)



To balance head and body in drawing a figure, we must grasp the figure as a whole.

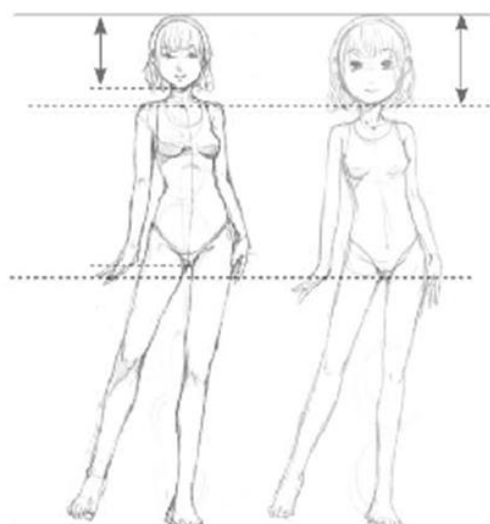
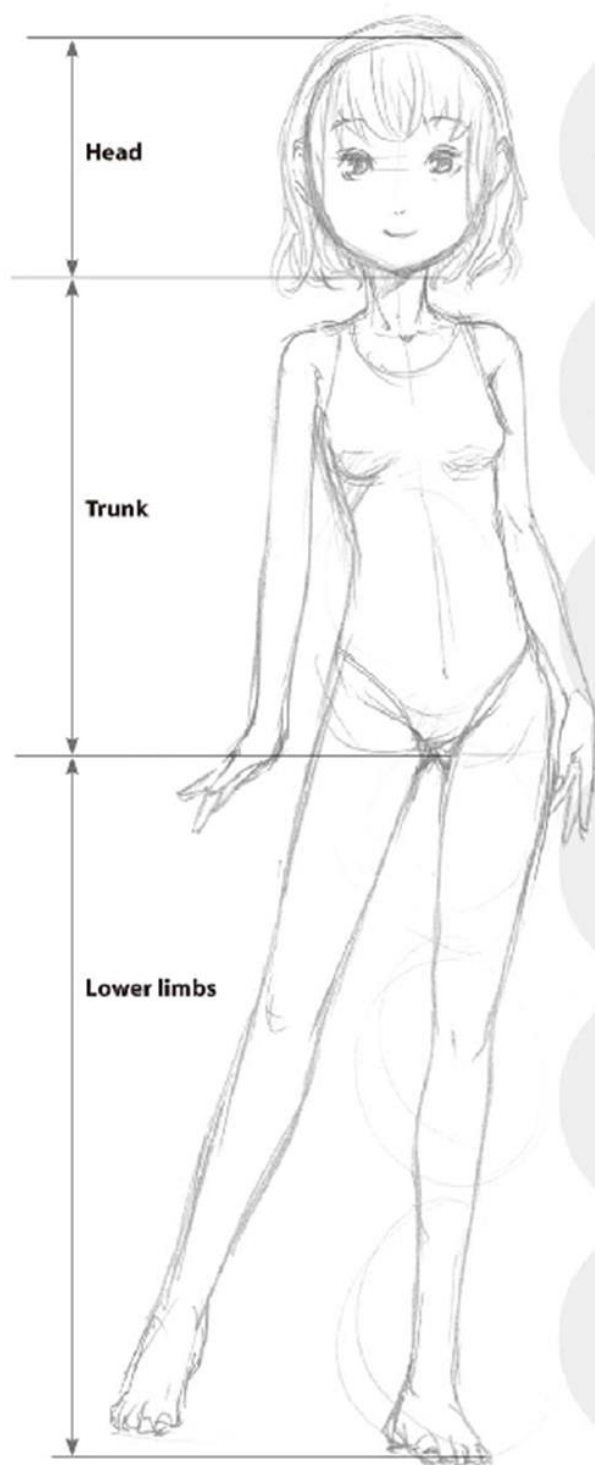
The base of integral feeling is to maintain the proportion of head and body.

### ● 8-headed body

8-headed body is the proper body proportion of adults, in which the head is relatively small.



The figure's head becomes smaller and arms and legs are longer, when she grows closer to an adult. Remember legs are longer than the trunk.



Put two figures of identical height together and it is easy to see they have different sized heads, and their head-body proportions are also different.

### ● 6-headed body

The head looks larger relative to the whole body, making the figure look like a child.



The younger the figure is, the head is relatively larger, arms and legs are shorter, and the trunk is relatively longer.



The female figures are all pretty girls  
Take on a new look through transformation (bodily change)  
No matter how it ends, the figure is drawn naked in base  
The base of the naked body is proportional to the head and body

## How to read the book — 14

## Chapter One Draw full-length portrait 15

### 1/2 rule — 16

### Rule of head-and-body proportion — 18

Count the number of heads to decide the head-and-body proportion  
Change the scale with the head-and-body proportion  
Typical head-and-body proportions  
Realizing stereoscopic sense in drawing head and body  
Why are there decimal points in the head-and-body proportion  
Steps to draw figures with the head-and-body proportions  
Adjust impressions of figure styles

### Big transformation of Q-version figures — 30

### Child and adult — 32

Proportion of the body  
Proportion of the face  
Draw the body along with facial features

### Practice in drawing — 36

Questions and answers in interview with master Kazuaki Morita

## Chapter Two Draw up facial features 47

### Techniques to draw up facial features — 48

Proportion of facial features  
Steps to draw the figure

### How to draw facial elements — 54

Understand the relationship of these elements  
Eyes  
Nose  
Mouth and lips  
Ears

### Start with hairstyle in designing a figure — 78

The overall change of appearance brought by the hairstyle  
Hair must be drawn upon a bare head  
Steps to draw up hair

### Seven elements to fix hairstyle — 84

- 1 Hair quantity
- 2 Length
- 3 Hair quality
- 4 Hair color
- 5 Comb and braid the hair
- 6 Wear hair ornaments
- 7 Symmetry and asymmetry

Issues to consider when defining hairstyles



## Chapter Three Drawing Body

109

### Learn about body structure — 110

Draw up curves

Body structure and part names

### Make the upper body and arms more charming — 114

Upper body drawing technique

Technique to draw hand

### Draw up sexy chest — 128

Chest structure and features

Draw up the chest

Draw up nipples and areolas

Chest under various shapes

Chest movement

How to draw the chest more beautiful

### Draw up enchanting back — 140

Draw up the prostrate posture

Revealing of the back

### Draw the twisting, turn-back and bending movements — 146

Reverse the S shape when standing

Leaning reverse

Turning around

Reversed bending

Crouch Position

### Draw up beautiful legs — 152

Fix the leg line

Draw up leg movement

Leg forms when seated

Draw up feet

### Four body types — 164

Distinguishing basic features

Draw up movements reflecting personalities

### Draw up existing and dynamic figure — 174

Display plump body

Revealing the body under a low angle view

Body performance in a large movement

### Key points for professionals in designing figures — 182



## How to read the book ~Improve your drawing skills through "focalized" and "overall" training ~

### ● How to overcome difficulties.

Overcoming weakness through focalized training. For example, if you cannot draw eyes well, focus on drawing eyes. In like manner, focus on hair if you cannot draw hair well.... Intensify focalized training in this mode. It needs dedicated repetitions to get over your weakness in drawing. Naturally, it does not necessarily mean you can draw a figure well only by drawing parts well.

### ● How to become a master hand ~Be aware of the whole when drawing, and gradually cultivate the capability to grip overall balance~

Cultivate the sense of balance to link face, body, trunk, arms and legs under different portrait modes, such as drawing full-length portraits, busts, and half-length portraits. The most fundamental ability is to know the proportion of head and body.

### ● Pay close attention to different drawing styles, balances and techniques.

Each person has his own drawing style and his own mode for brevity and balance.

If we keep our mind only on one painter and learn his drawing techniques, we will simply be an imitator. To establish our own styles, we must pay more attention to works of our favorite painters, as well as paintings of styles opposite to our preference. It is a good learning method to observe at all times.

The illustrations of this book are drawn by many persons exactly for that reason.



A figure can be split into many parts.



Components of head:  
hair + facial features

Components of the body: chest, waist and abdomen. When taken apart, the body can be expressed in diversified geometries.



Full-length portrait

Although each part looks independent, they are actually joined up to compose an integrated whole, which is fundamental to the drawings. The sizes and forms of the parts are all based on the integrated whole. It is meaningless to draw parts before fixing the style of the integrated whole.

※All the illustrations of the book are drawn with pencils or propelling pencils. When printed, the effects might be different from actual drawings of pencils in lines and shades.



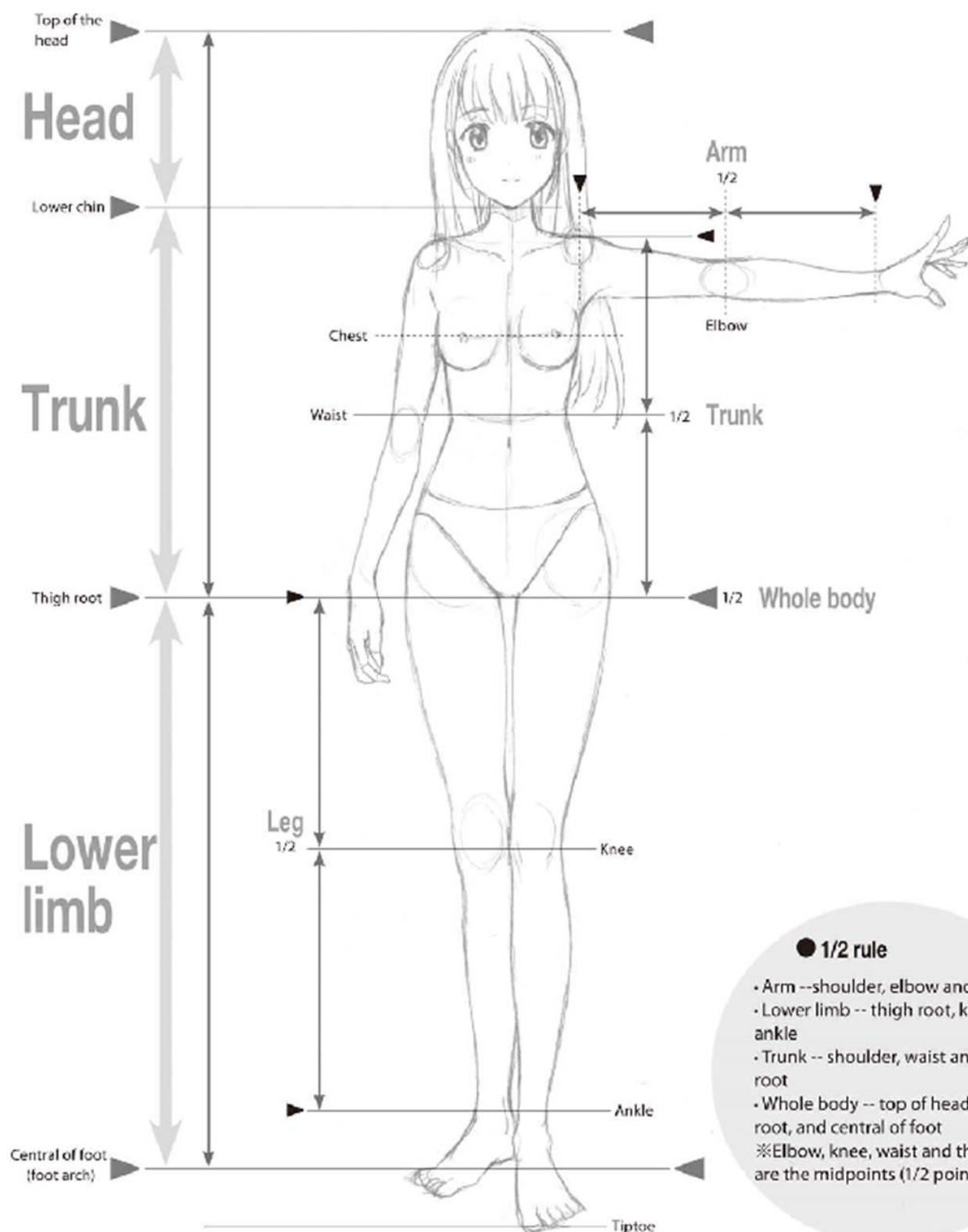
Chapter One

# **Draw full-length portrait**

# 1/2 rule

~ Foundations for body balance ~

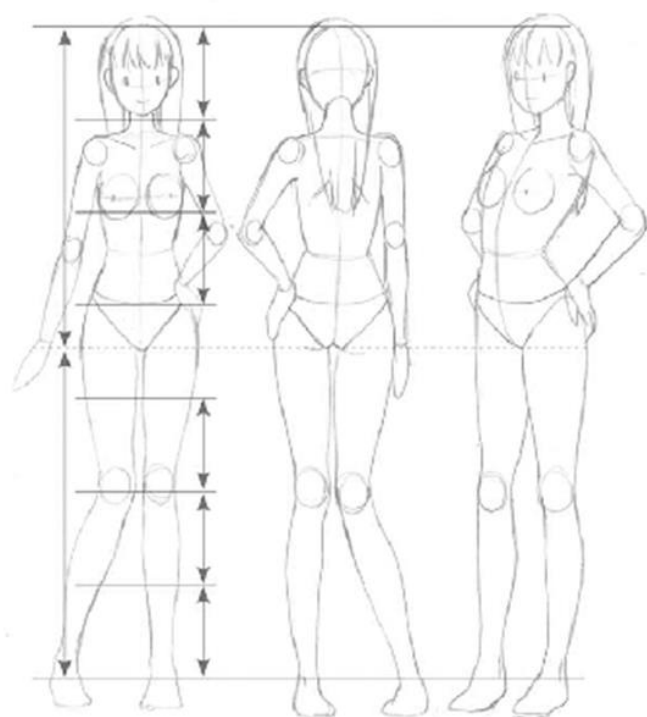
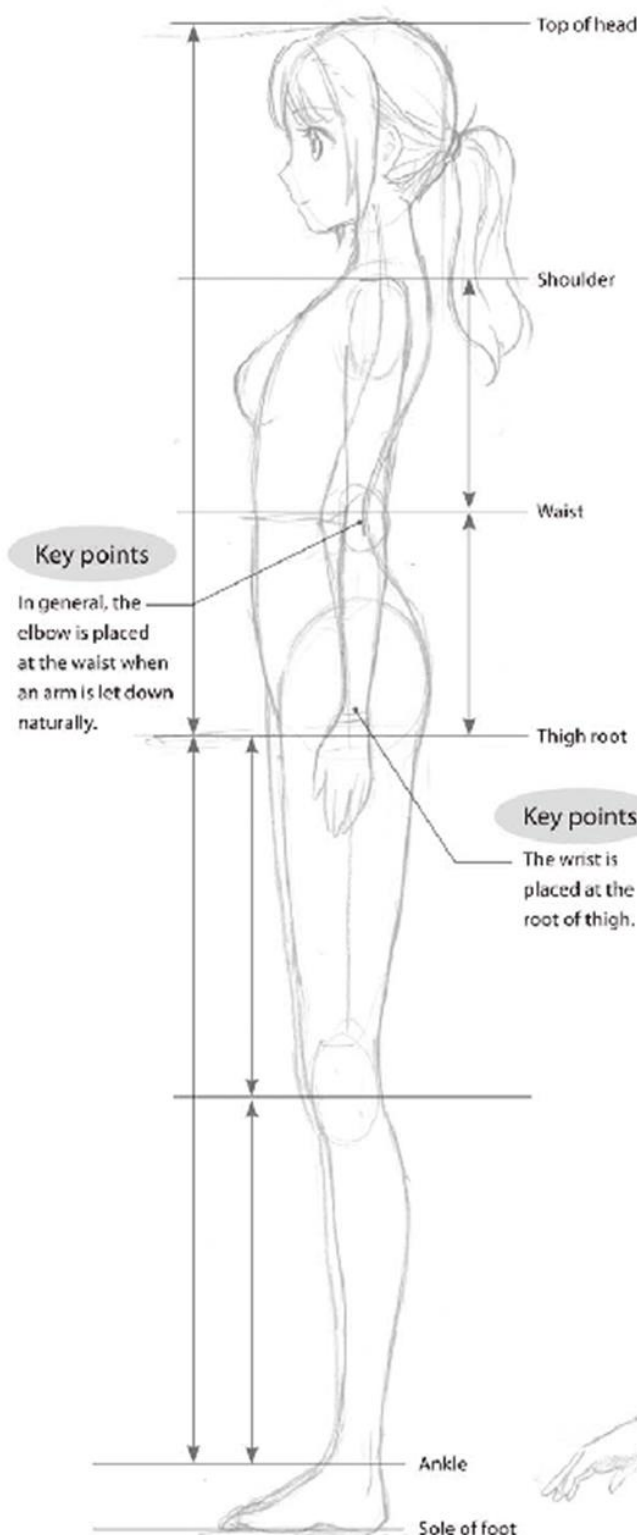
The positions of joints are most crucial for us to balance the human body well. With regard to arms, legs, trunk and the whole body, the positions of elbows, knees, waist and thigh roots are exactly the midpoints of these parts. They are applied as benchmarks to determine balance of human body.



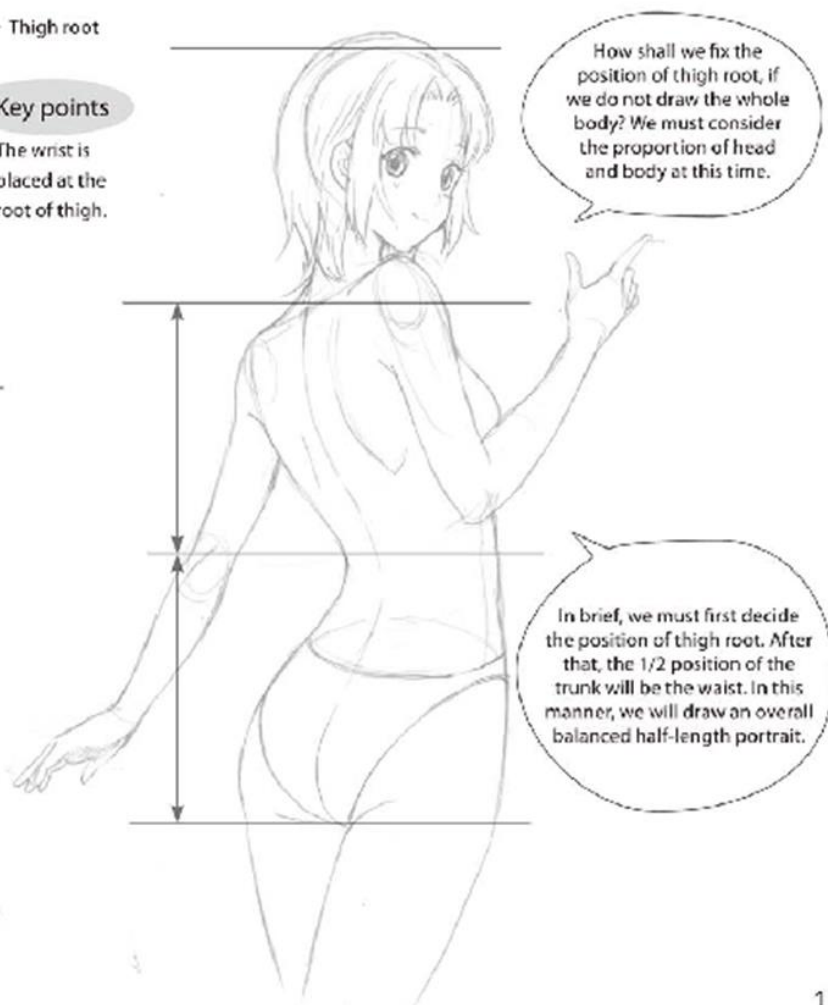
## ● 1/2 rule

- Arm -- shoulder, elbow and wrist
  - Lower limb -- thigh root, knee and ankle
  - Trunk -- shoulder, waist and thigh root
  - Whole body -- top of head, thigh root, and central of foot
- ※ Elbow, knee, waist and thigh root are the midpoints (1/2 point)

Arm length basically equals the length of trunk



When it comes to drawing similar figures, including their fronts, backs and 3/4 sides, the root of thigh must be placed roughly at  $1/2$  of the whole body length, no matter what angle is taken. Figures portrayed in this way will leave a sense of stability.



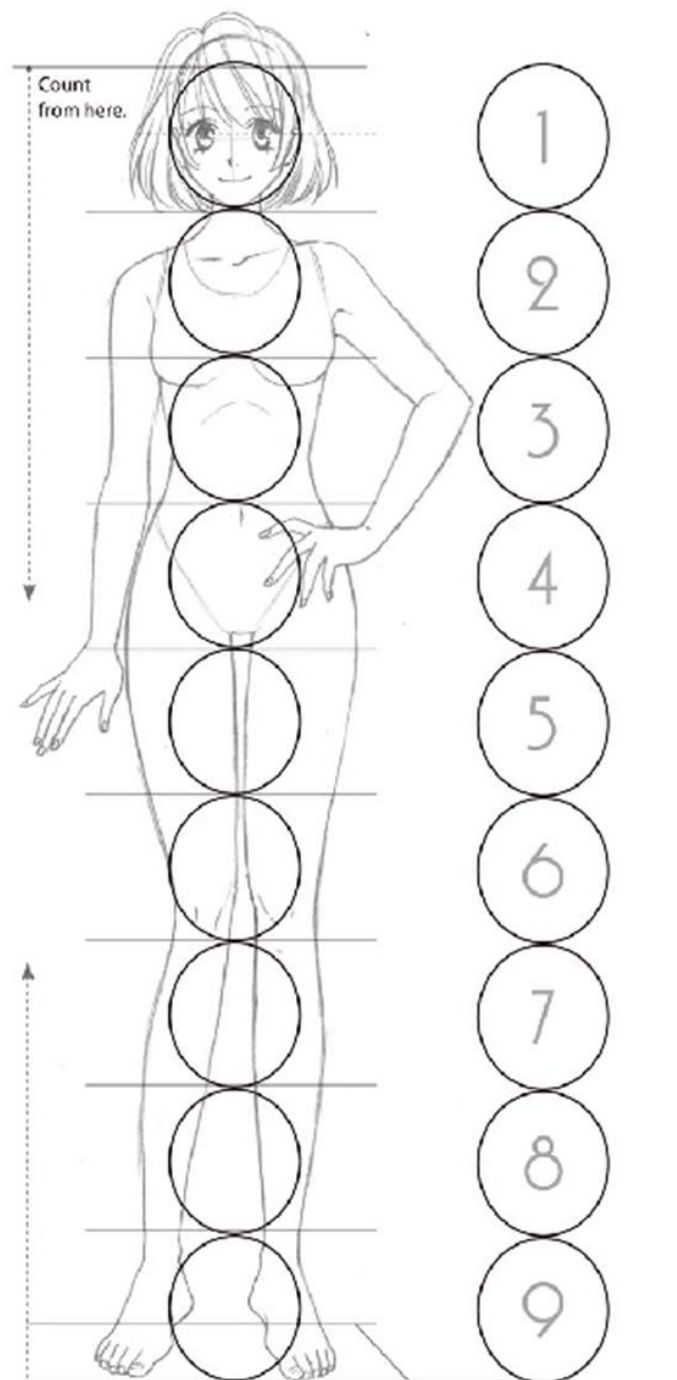
Human body is not planar. So, it is unnecessary to precisely fix the  $1/2$  positions. Human body will be basically balanced so long as the  $1/2$  positions are roughly found.

# Rule of head-and-body proportion

The head-and-body proportion is a measure to fix the full body length of a figure on the basis of head length.

## Count the number of heads to decide the head-and-body proportion

### Count body with head skeleton in principle



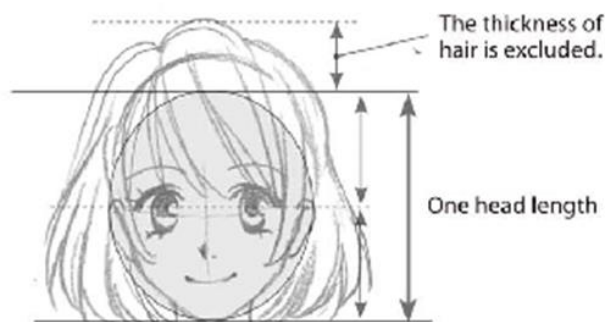
There are two methods to count where feet end. We may choose either one according to our habits.

If we count with the center of foot (foot arch) as the benchmark, the length of body will be 8.6 heads.

If we count with toes as the benchmark, the length of body will be 9 heads.

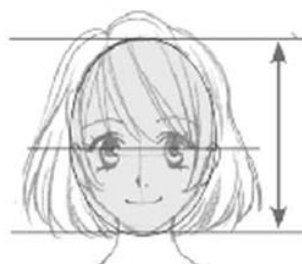
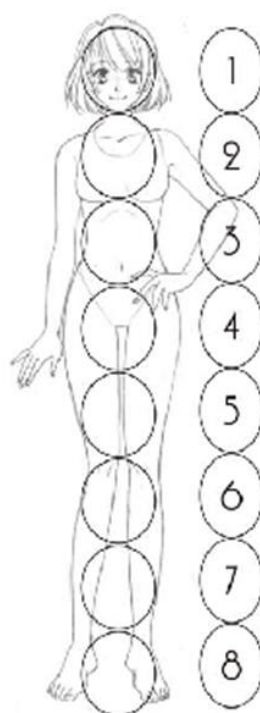


The length of skull is two times the distance from lower jaw to eyes.



In this way, we count the length of the figure's body with the head as unit.

### Count with approximate number of heads



Depend on the sixth sense rather than auxiliary circles, when you can draw the figure with skills. The head-and-body proportion will always be eight heads for the same figure in different situations.

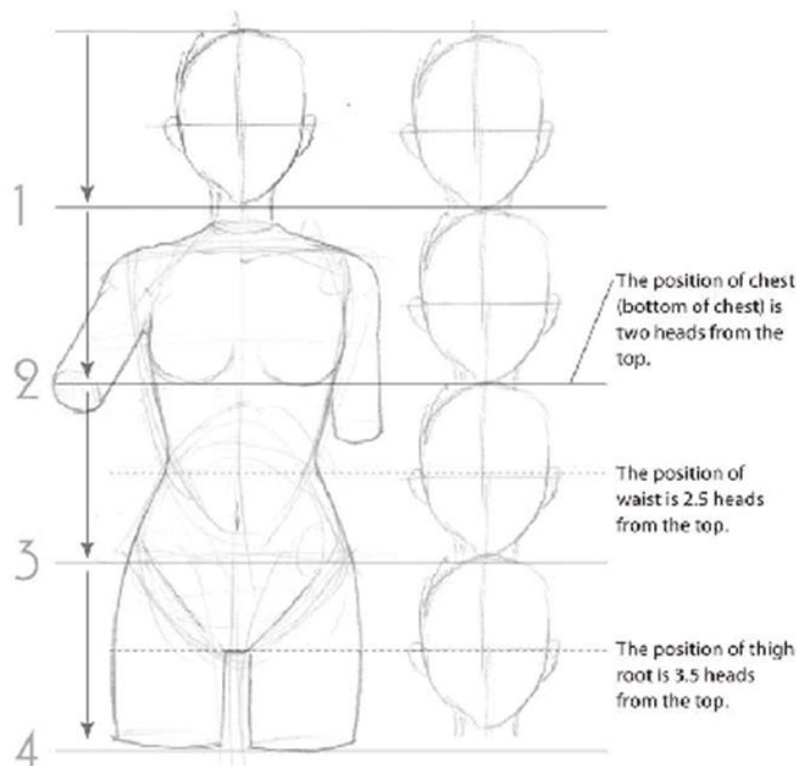
※At this time, the size of the head is counted without thickness of hair.



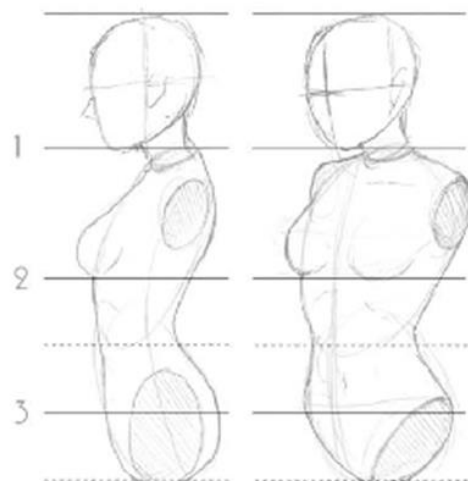
● Rule of head-and-body proportion

To grasp the relations of the whole and parts, we will count with the head as a benchmark

Apply the method in actual drawing



In drawing a figure, we fix the positions of all parts by using one head, half a head, and a quarter of a head as the length unit. It is unnecessary to locate them so precisely. It will do when we take the length of head as the unit. We don't have to precisely measure it. It is good to find out the positions so as to basically keep balance.



We may also apply the head-and-body proportion rule to draw the front, side and 3/4 side pictures. When drawing the figure at different angles, we will create 'multiple figures' for the same object, if we change the head-and-body proportion (change the positions of the chest, waist, and thigh root).

● The length of hair is excluded from the length of head



If the length of hair is counted into the length of head, we might meet such a figure:

Head .....4.8cm  
Body .....1.8cm  
Full body length .....6.6cm

If the hair length is counted as a part of the head length, we will measure the body length with the head-and-body proportion when meeting such a figure. It would be ridiculous to have full body length ÷ head length —  $6.6 \div 4.8 = 1.4$  headed body.



● The head-and-body proportion is counted on the basis of hair-free head.



Fix the positions of the head and thigh root and the balance of the full body, just like making a doll.



If we leave out the overall shape and focus only on the size and length of parts, we will make a twisted doll.

## Change the scale with the head-and-body proportion

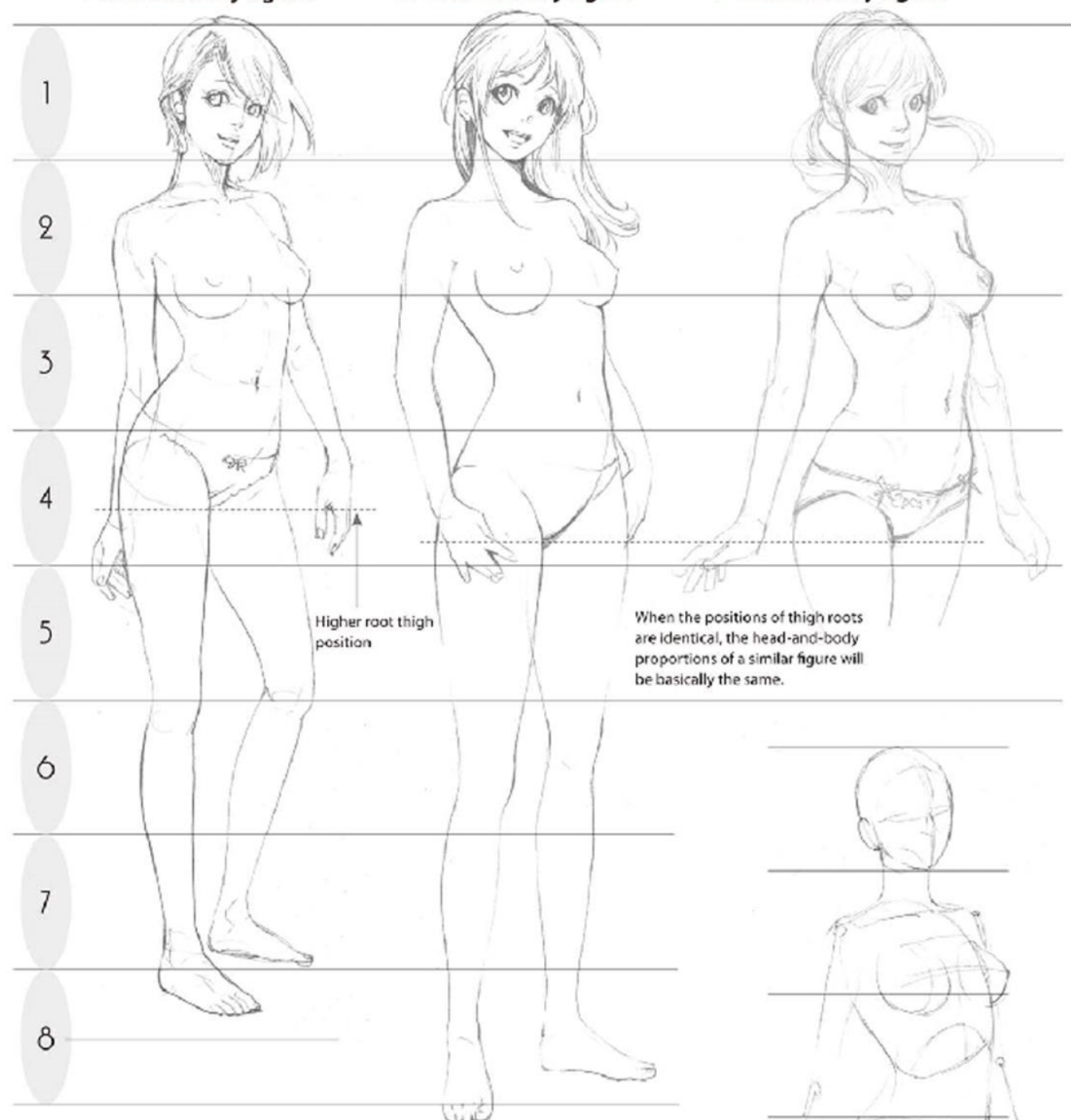
Understand changes in the position of thigh root.

Difference between 7-headed body and 8-headed body

7-headed body figure

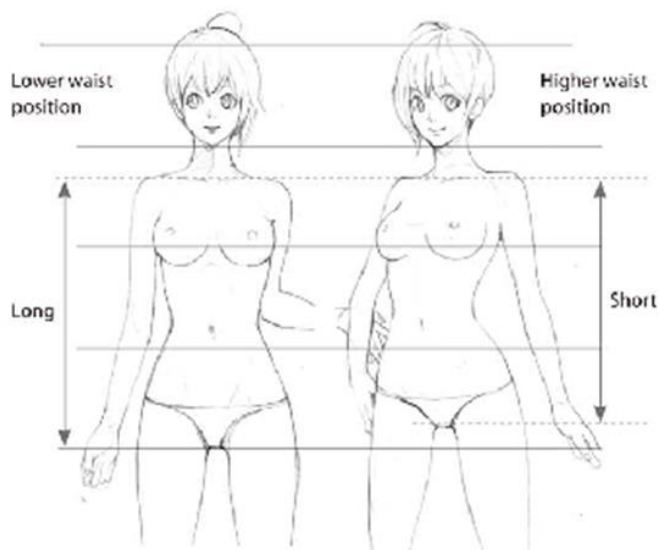
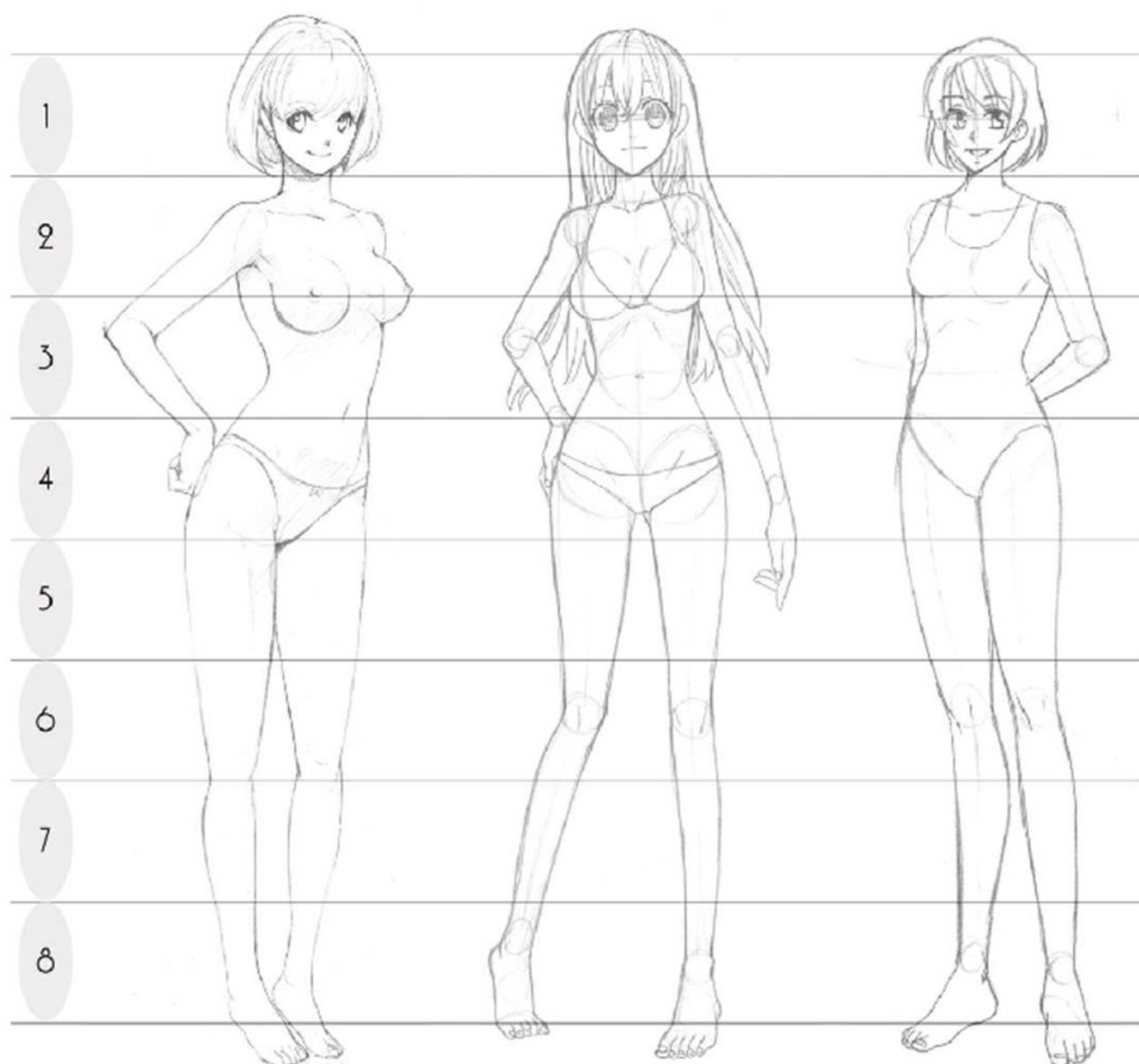
8-headed body figure

8-headed body figure



Half-length portraits are normally drawn by fixing the position of thigh root first, so as to balance the whole body.

Example of different figures with same 8-headed body proportion



● Change in proportions

Length of neck  
Position of chest  
Position of thigh root (the higher the thigh root is, the longer the figure's legs will be)

※Changes in hair quantity will create different impressions of the figures.

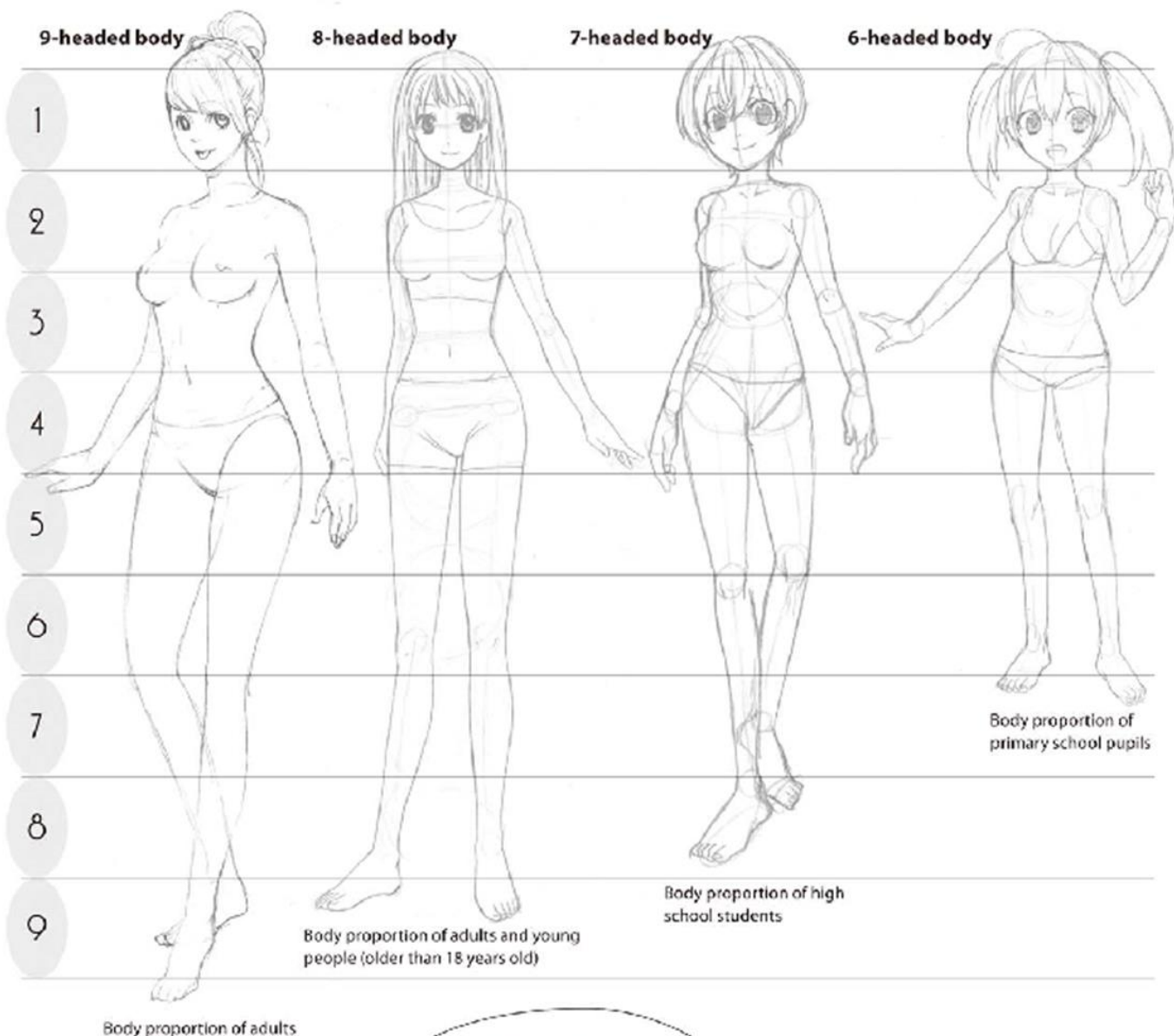


## Typical head-and-body proportions

### Ordinary figure and Q-version figure

Ordinary figures largely have 5-to-9 headed bodies, and Q-version figures mainly have 2-to-4 headed bodies.

#### Full length proportion of ordinary figures



Strictly speaking, the proportion of head and body is shown as the above chart. But each painter will have his own features in drawing. So, it is all right to roughly decide the head-and-body proportion with the painter's own head size in drawing.

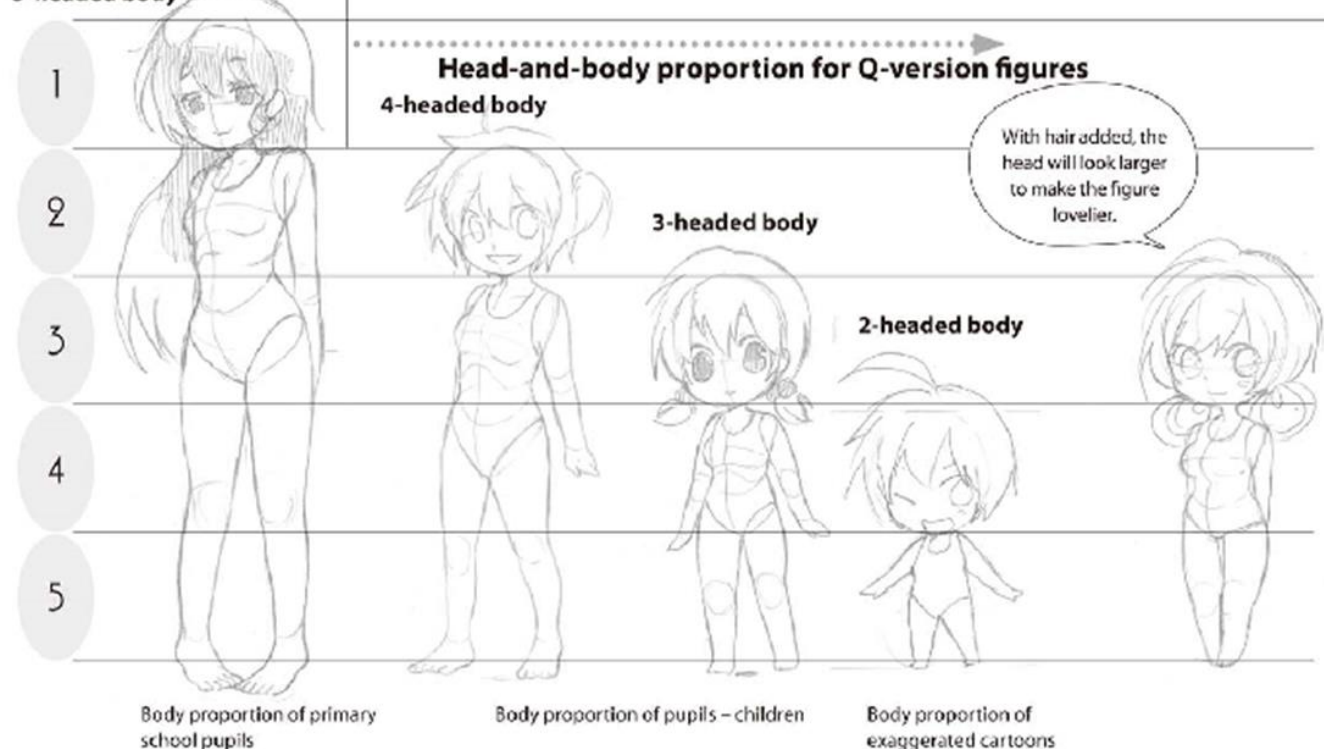
Take the example of the above 7-headed body figure. Draw the figure according to the painter's own standard, and it is likely to end in a 6-headed body proportion.



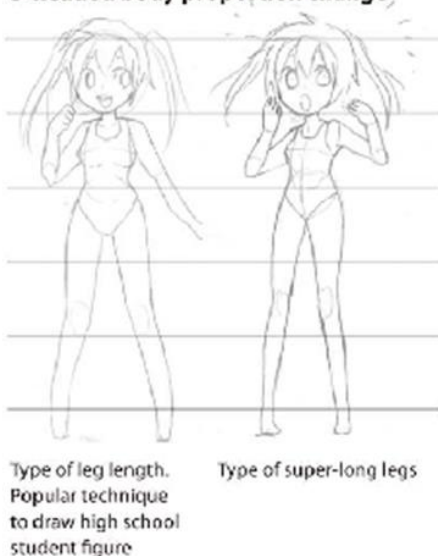
We apply this "head-and-body" mode of thinking to balance "head, trunk, body and legs" in line with our own ideas before setting about with the work.



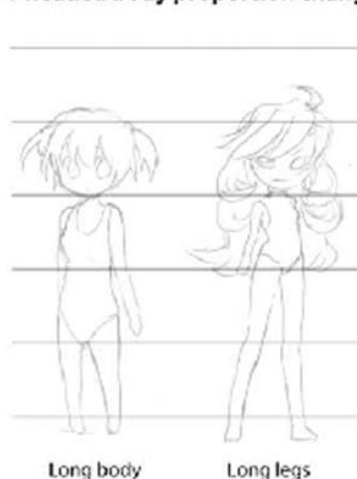
# 5-headed body



## 5-headed body proportion change



## 4-headed body proportion change



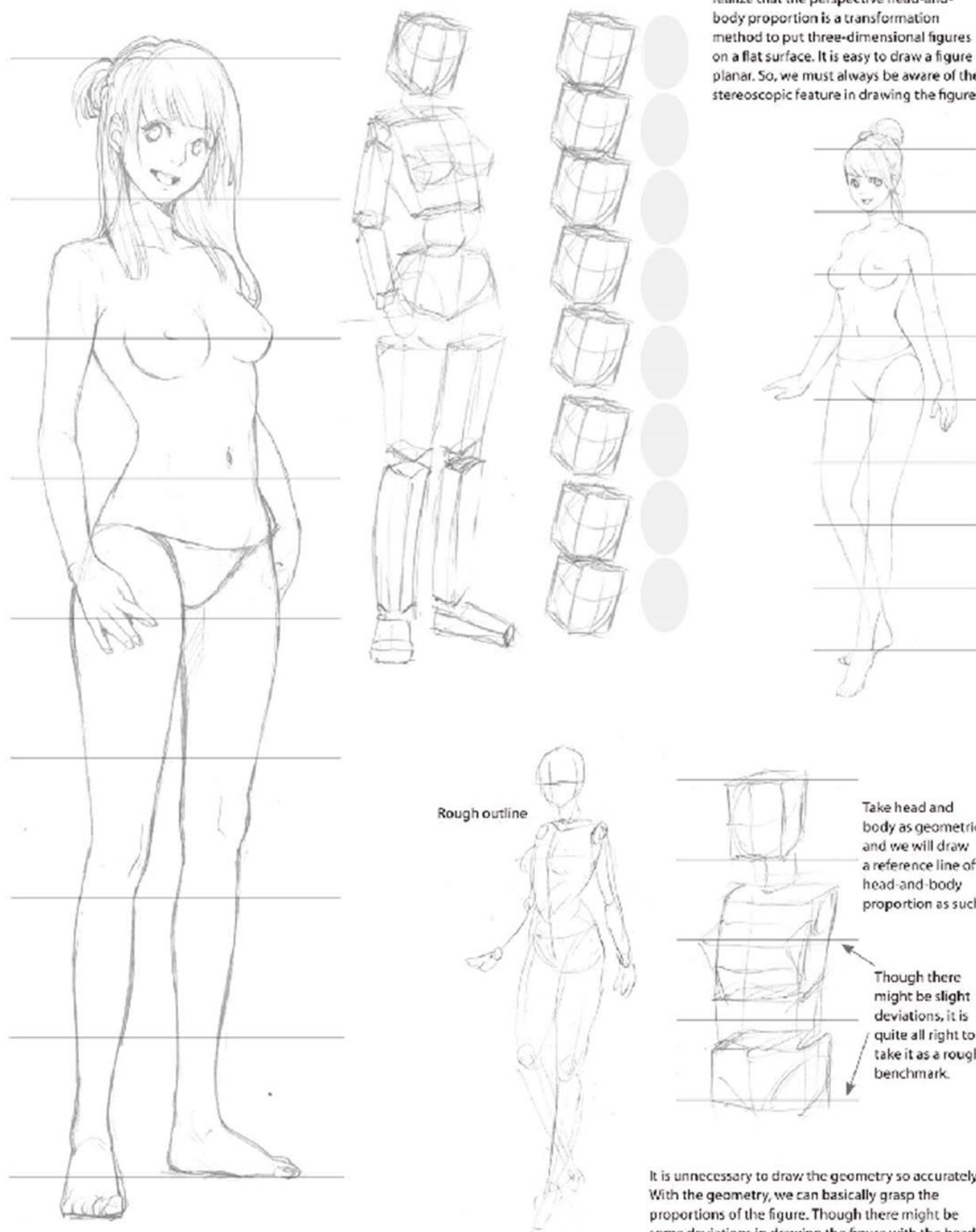
## 11-headed body



Figures with big head-and-body proportions. If we draw the hair fuller, the figure's head will look fairly big, something like 7-headed body or 8-headed body.

## Realizing stereoscopic sense in drawing head and body

When drawing head and body, we must realize that the perspective head-and-body proportion is a transformation method to put three-dimensional figures on a flat surface. It is easy to draw a figure planar. So, we must always be aware of the stereoscopic feature in drawing the figure.



Rough outline

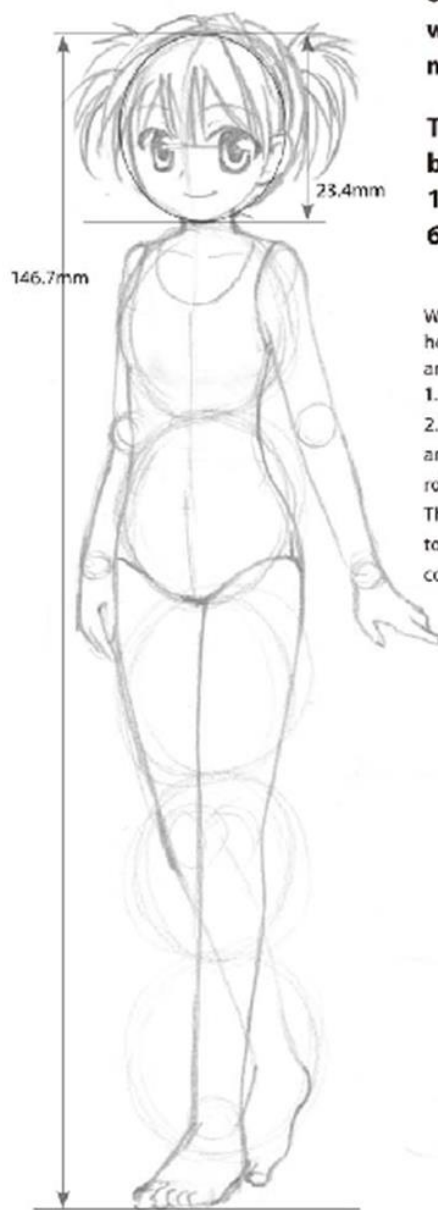
Take head and body as geometric, and we will draw a reference line of head-and-body proportion as such.

Though there might be slight deviations, it is quite all right to take it as a rough benchmark.

It is unnecessary to draw the geometry so accurately. With the geometry, we can basically grasp the proportions of the figure. Though there might be some deviations in drawing the figure with the head-and-body proportion, we need such a benchmark.

## Why are there decimal points in the head-and-body proportion

### 6.2 headed body



**When drawing a cartoon or illustration, for example a 6-headed body figure, we will find out after precise measurement ....**

**This figure has a head-and-body proportion equaling  $146.7 \div 23.4$ , which is about 6.2-headed body.**

We might have decimal points in an head-and-body proportions, because in an actual drawing:

1. We count the skull a bit larger;
  2. We take the circle as rough standard, and the head-and-body proportion is roughly counted.
- Therefore, our consciousness is working to control the result in the rough counting.

We will always have decimal points, if we count the head-and-body proportion of the figures we draw. For example, we might have a 6.2-head-and-body proportion. How do we get the 0.2 decimal point? Each painter has his own characteristics in drawing figures. Professional painters will enlarge or narrow facial features on the basis of their assumption, and needs of scenes and plots. They subconsciously or intentionally change the head-and-body proportions. This is a technique of professionals. Therefore, the head-and-body proportion is not fixed.

Controlling the head-and-body proportion consciously means painters have in their mind an absolutely existent fixed head-and-body proportion. This proportion may be changed and applied freely. It is virtually a golden ratio of head and body.

In ordinary drawing, it is unnecessary to count the head-and-body proportion so precisely. But it is better to give it a shot with a fixed proportion in the very beginning to establish the golden head-and-body proportion of the figure.

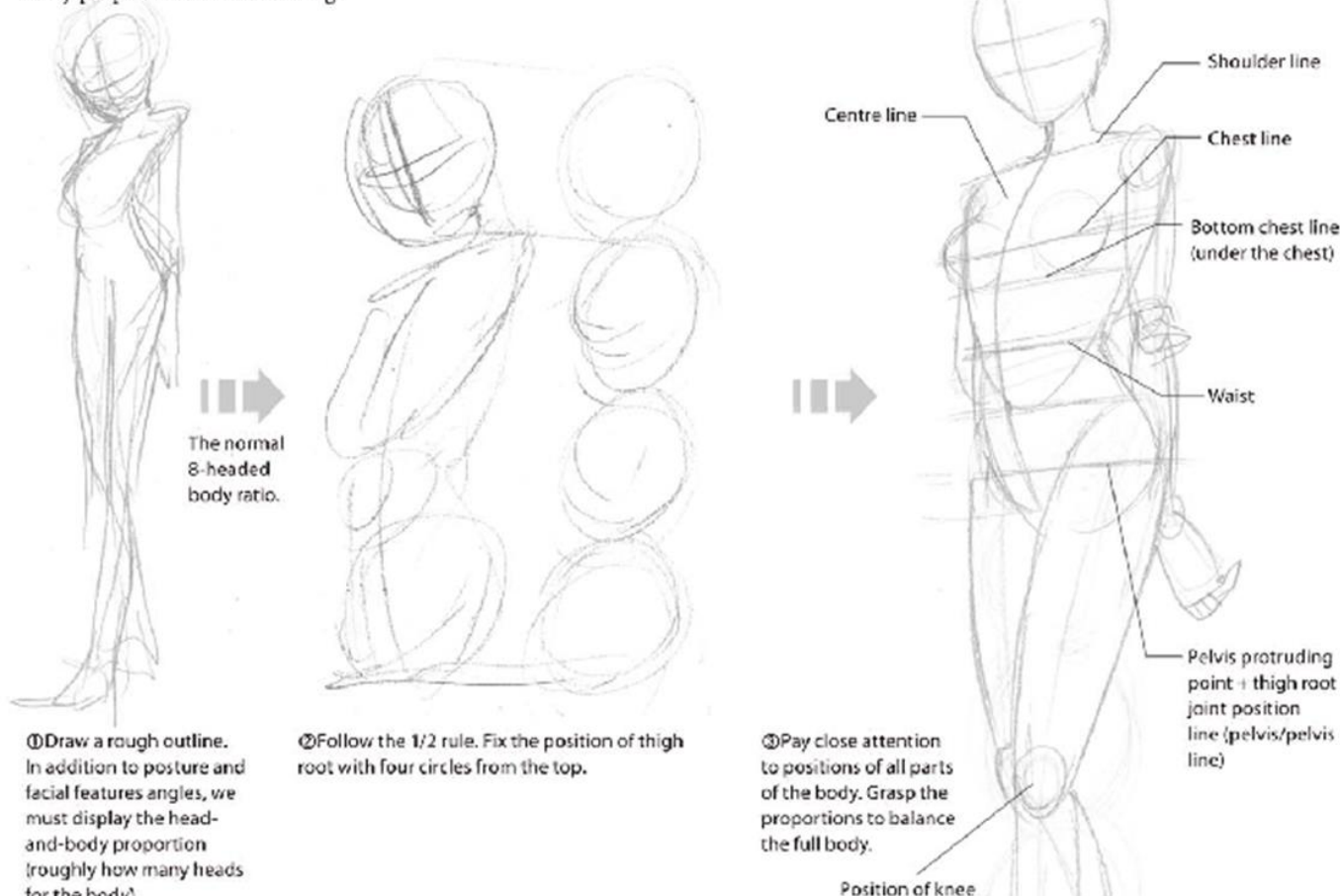


By understanding the 6-headed and 8-headed body proportions that are different from our own styles, we may have images closer to the golden head-and-body proportions.

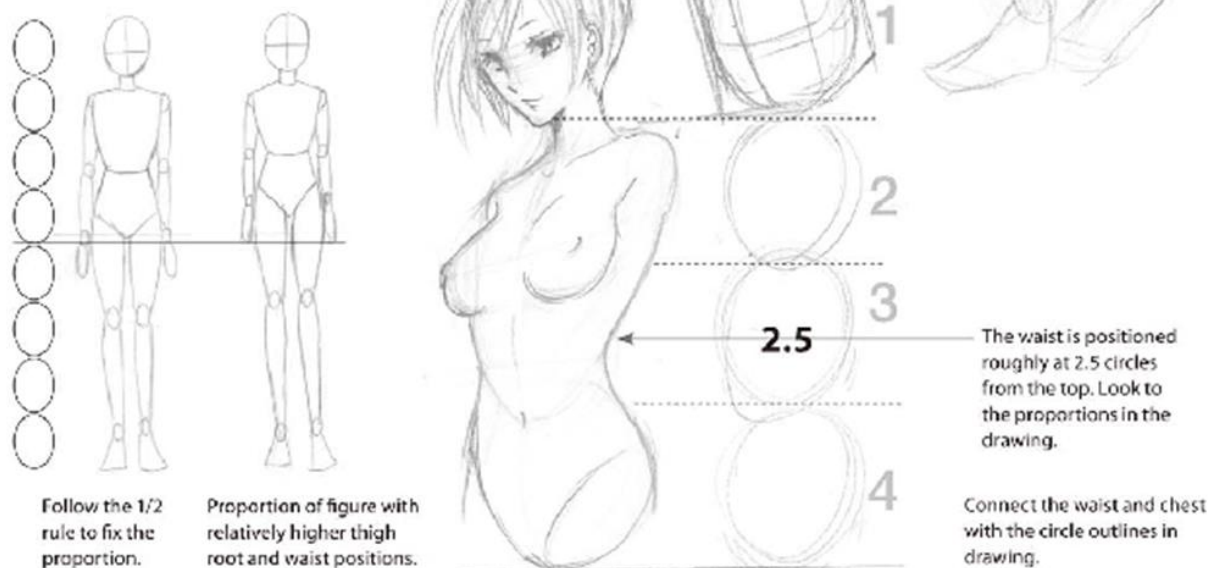


## Steps to draw figures with the head-and-body proportions

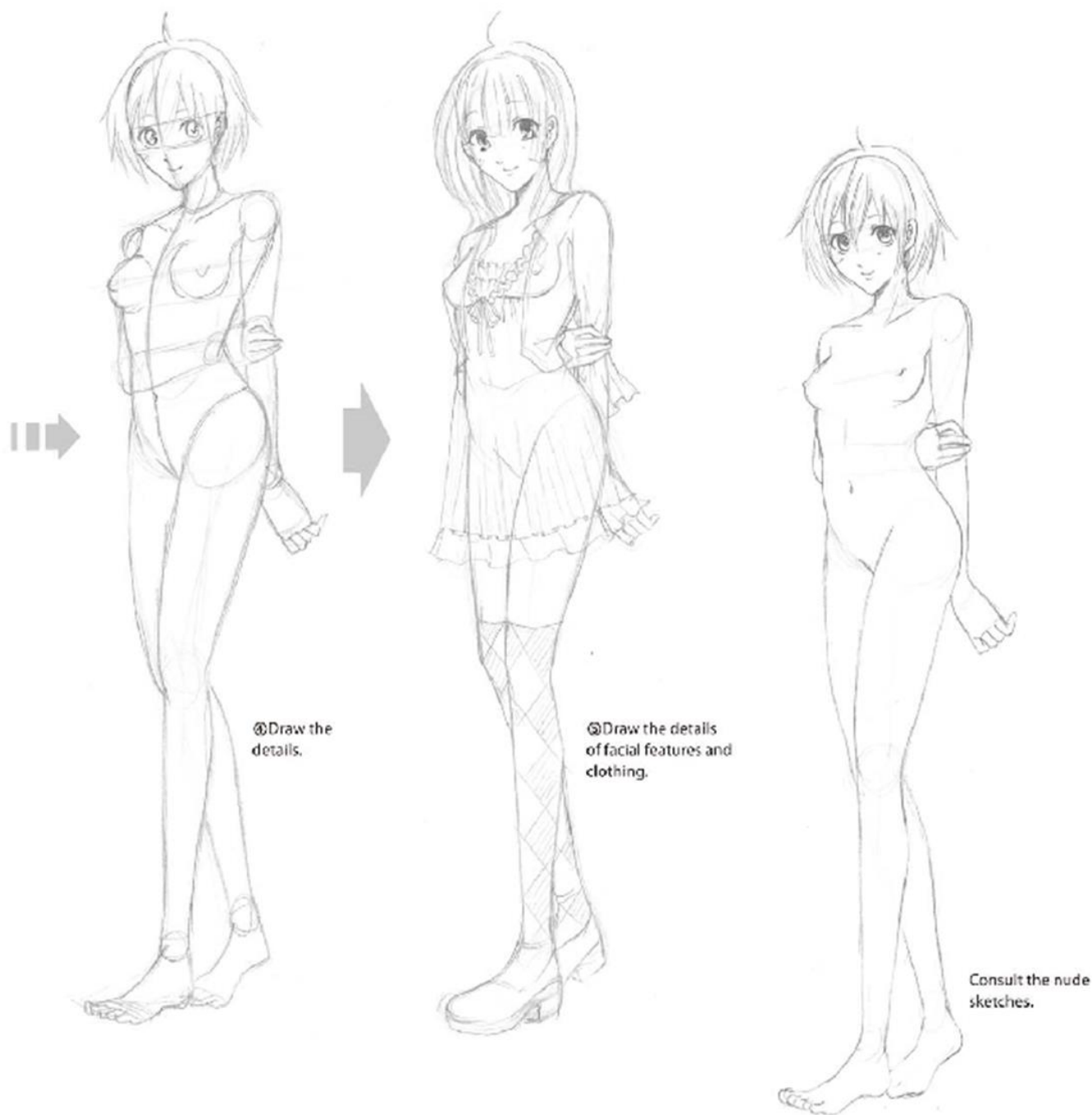
Draw a circle roughly to the size of a head, and take it as the benchmark for the head-and-body proportion in the drawing.



### Fix the body proportion for the figure you want to draw.

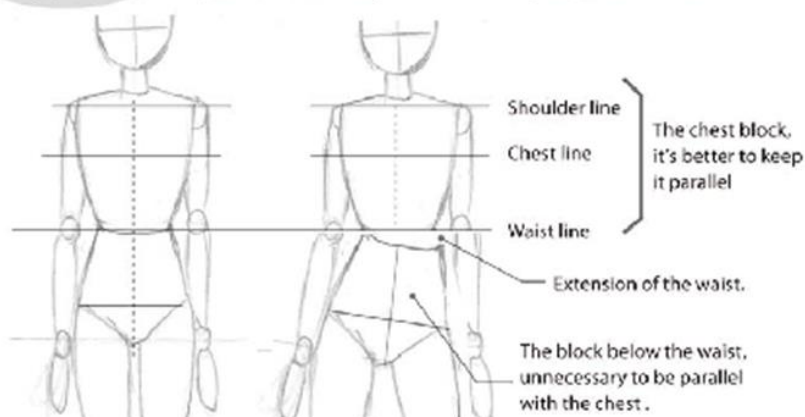






#### Key points

**Separate the body into two major parts to work with.**



#### ● The parts that should remain parallel

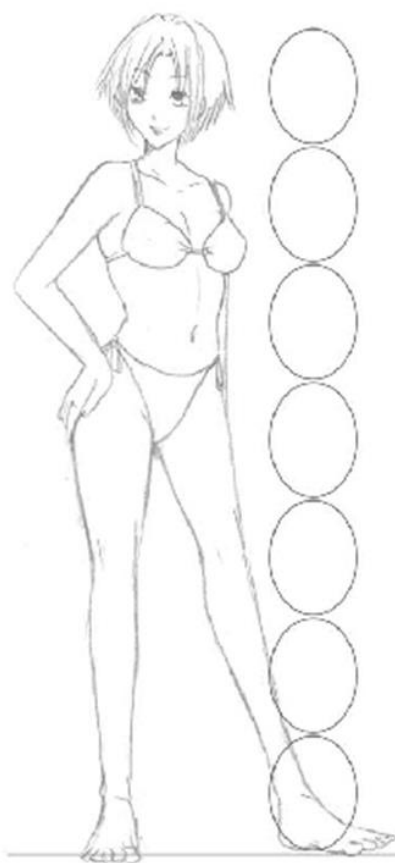
- Chest block: shoulder – chest – waist (chest line – bottom chest line ~ waist line)
- Block under the waist: waist line – pelvis line

## Adjust impressions of figure styles

### Difference between 7-headed body and 8-headed body

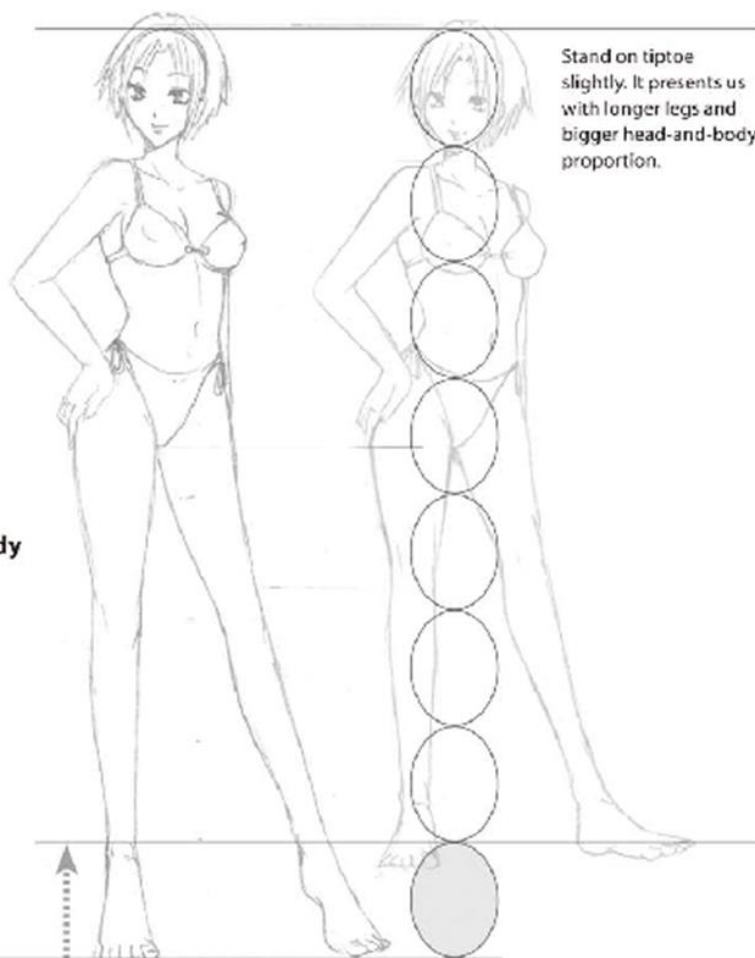
Change the length of the legs and arms, and the figure will present different overall impressions.

#### 7-headed body figure

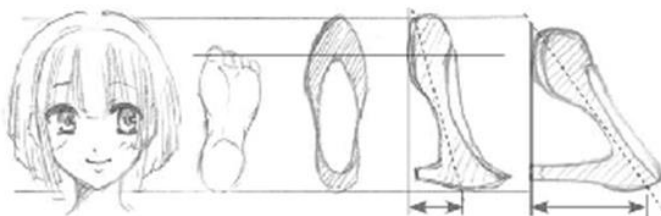


Stand with one-leg support

Turn to  
8-headed body



Stand on tiptoe slightly. It presents us with longer legs and bigger head-and-body proportion.



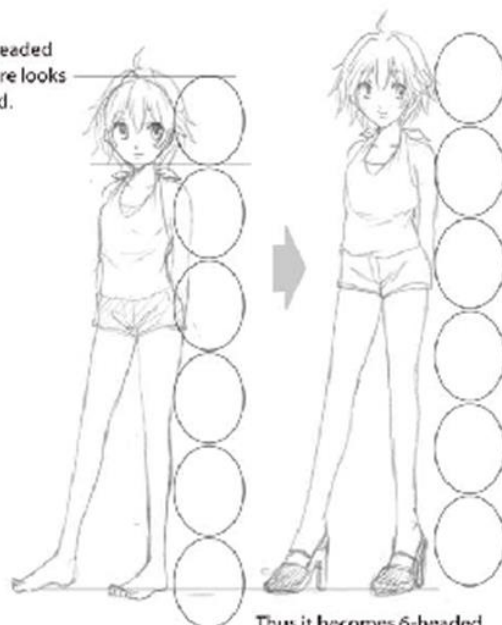
The foot length is a bit shorter than head length. But with shoes, they are basically the same.

To make legs look longer → increase head-and-body proportion → the head looks smaller and the figure looks prettier. Wearing high-heeled shoes helps lift the heels, to the effect of stretching the legs.



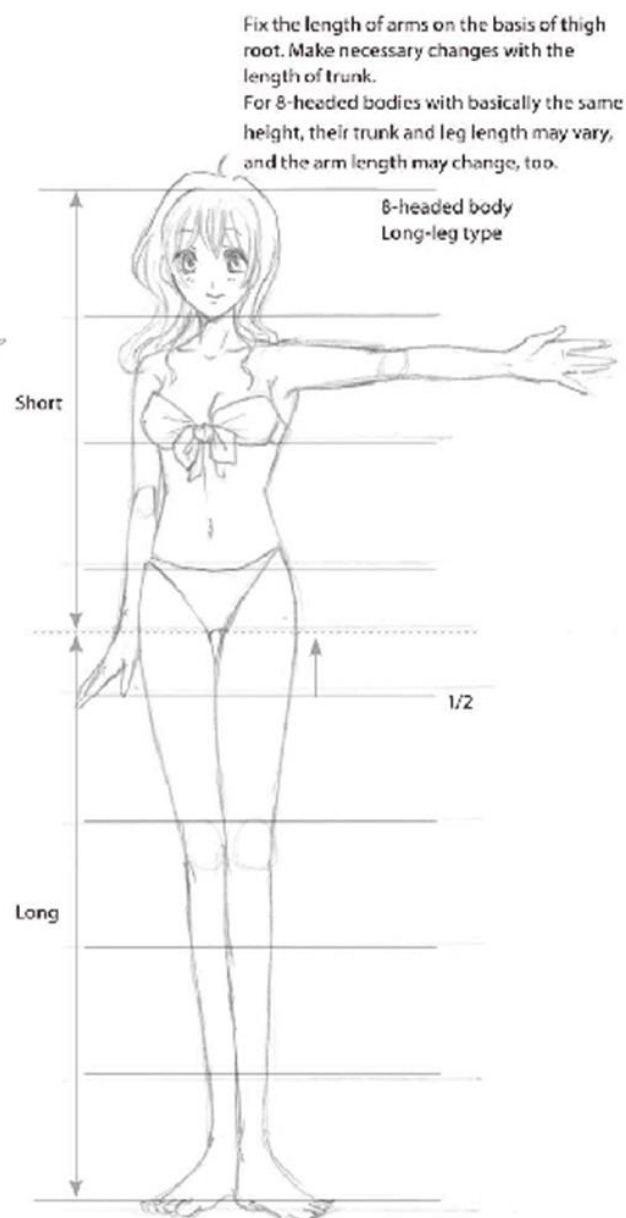
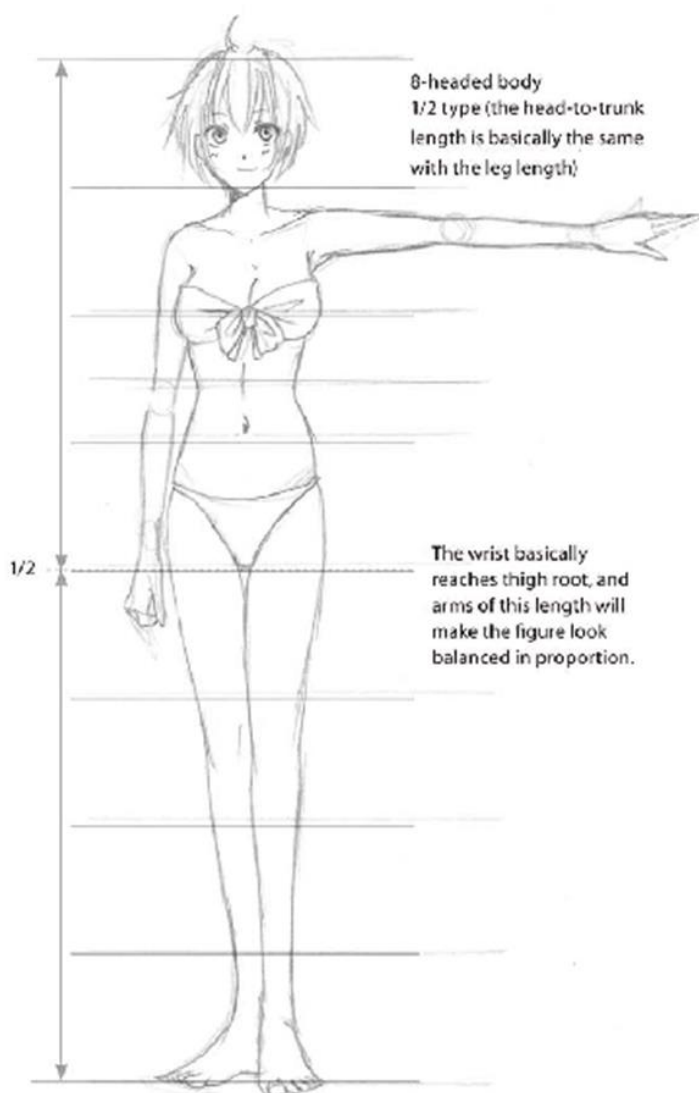
Raise the heels slightly, and the legs look longer.

The 5.5-headed body figure looks like a child.

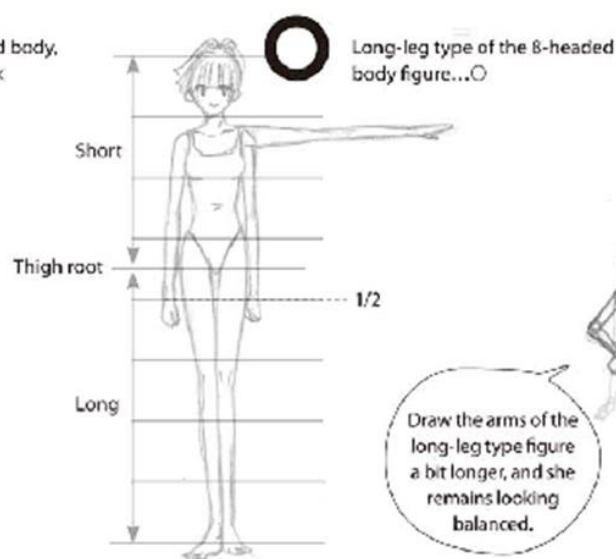
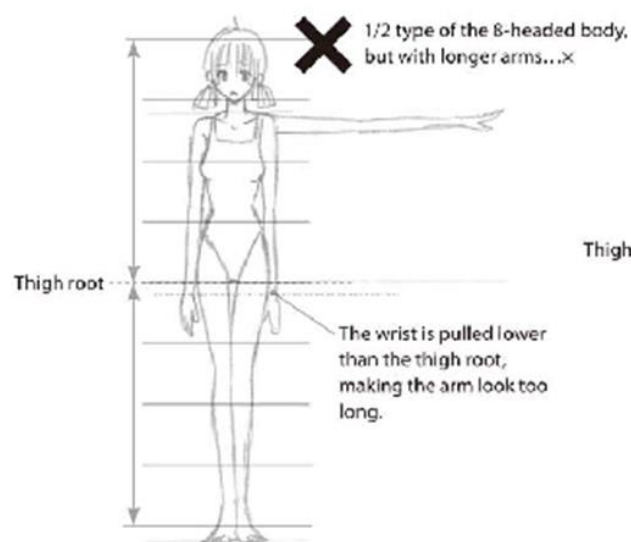


Thus it becomes 6-headed body and looks mature.

## Change the length of arms according to the body



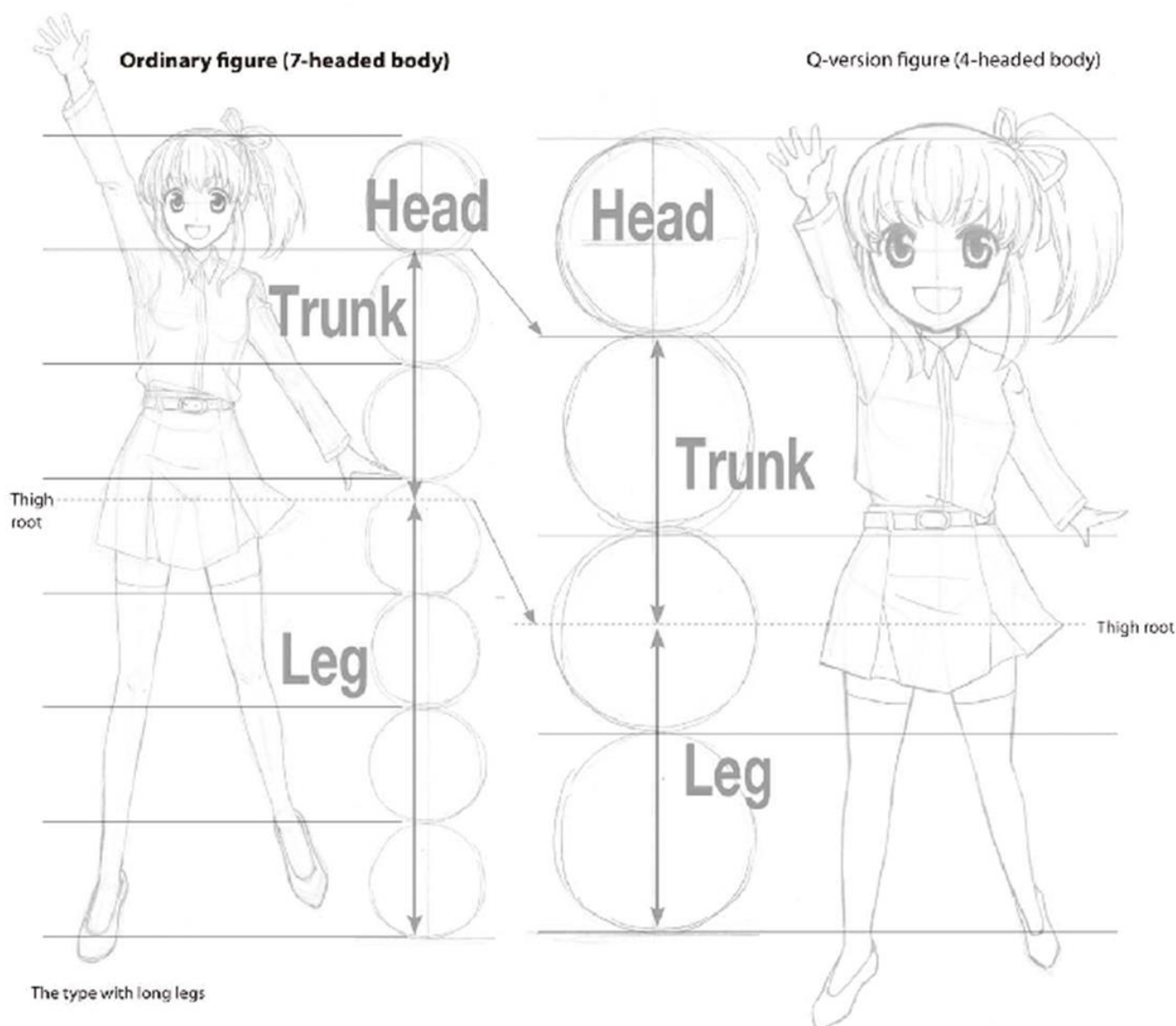
## ● Technique to extend arms



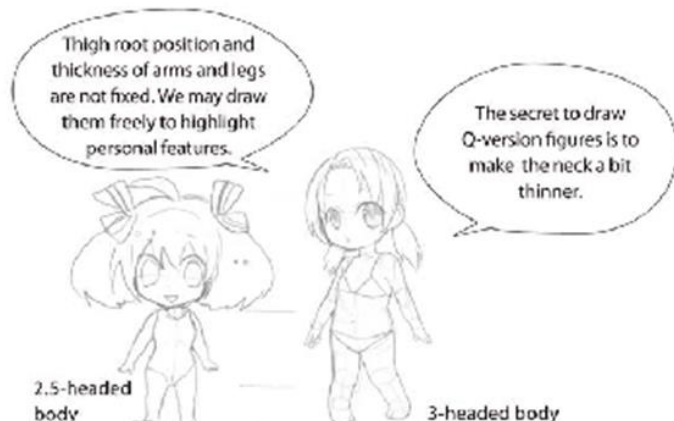
# Big transformation of Q-version figures

Fix the thigh root position first when drawing Q-version figures. Then, determine the length of the trunk and legs.

Great change from ordinary figures



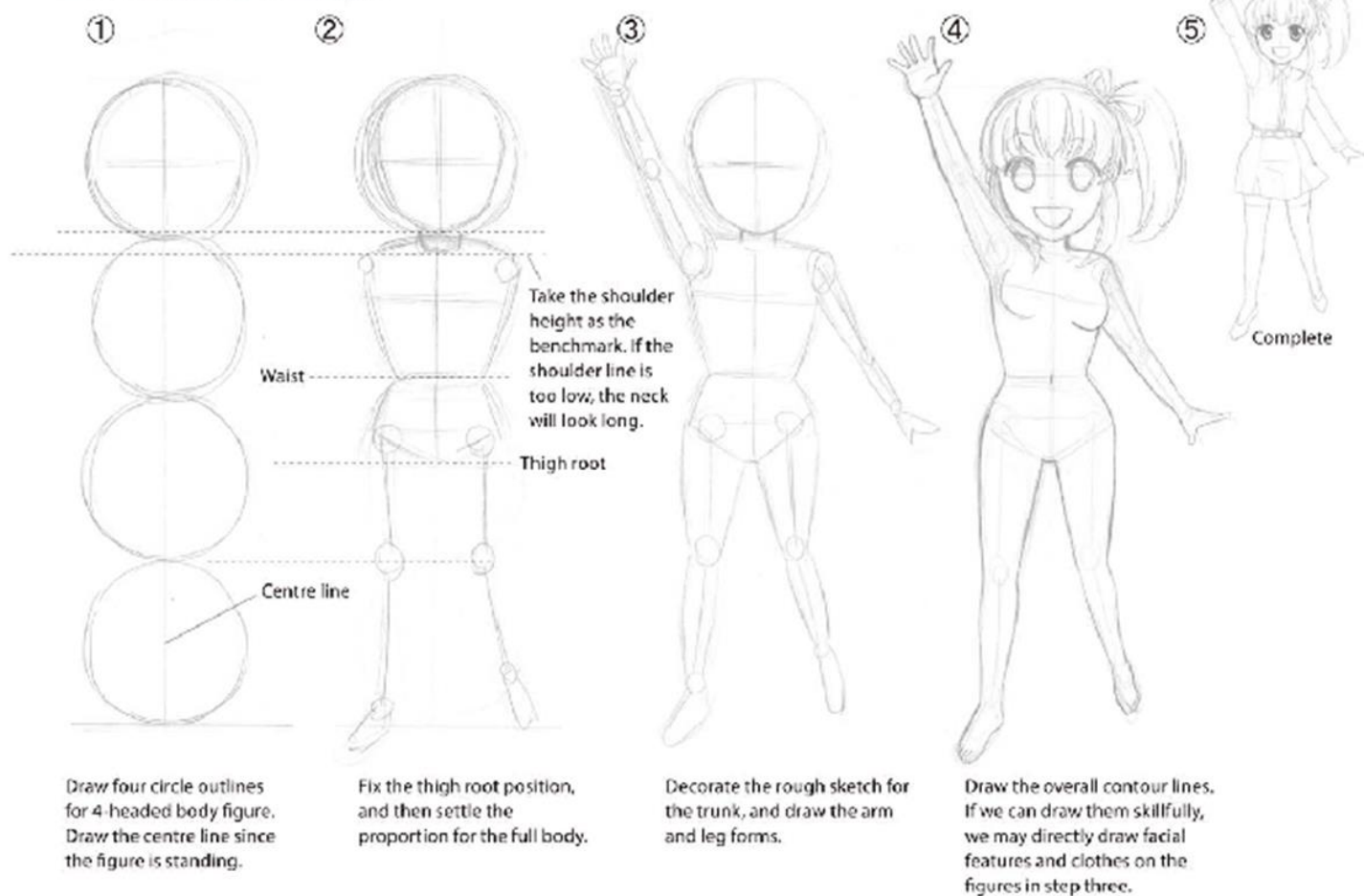
The type with long legs



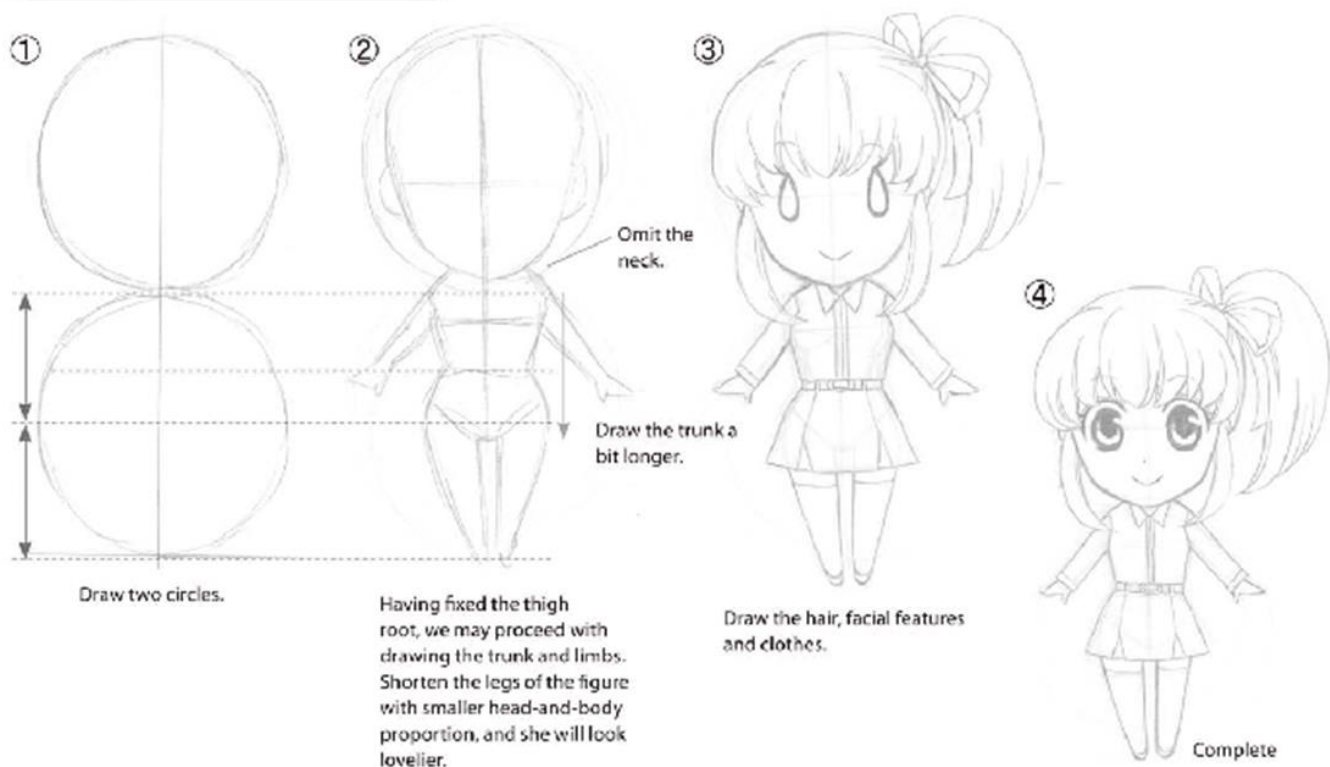
When drawing a 4-headed body figure, the head remains one head long, and the remaining three heads length is reserved for the trunk and legs.



## ● Procedures to draw figure



## Technique to draw 2-headed body



# Child and adult

## Proportion of the body

Small head-and-body proportion → head looks big → look like a child

Big head-and-body proportion → small face → look like an adult

Child

Adult

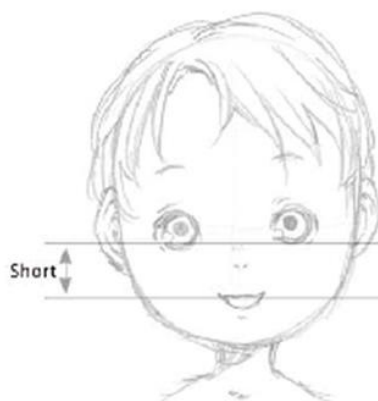
3-headed body:  
will look like three to  
five year-old child

5-headed body: will  
look like senior primary  
school pupils and junior  
high school students

4-headed body:  
will look like six-to-  
ten year-old child

7-headed body:  
senior high school  
students and older

## Proportion of the face



Short

Lower eye line

Mouth



Long

The key point is to distinguish  
the distance between eyes  
and mouth.

## Grasp the features – figures looking like child and adult

Girls start to look mature at about 12 years old.



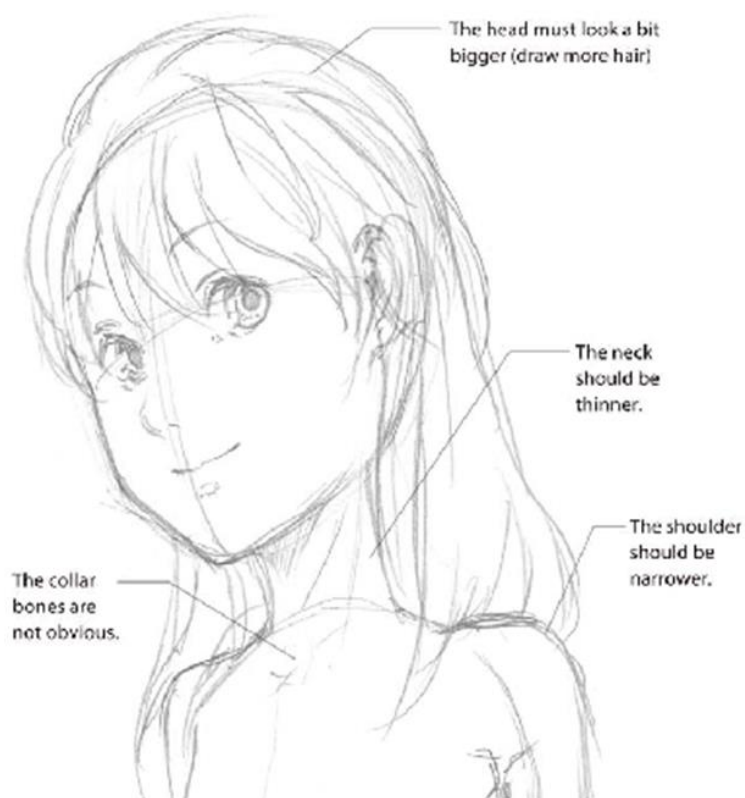
Figure looking like an adult



Proportion of an adult, but with relatively larger eyes. Try to make the figure look like a child and then an adult.



Figure looking like a child



The head must look a bit bigger (draw more hair)

The neck should be thinner.

The shoulder should be narrower.

The collar bones are not obvious.

With a thin neck, narrow shoulder and big head, the figure looks like a young girl.



Draw the head a bit smaller (with fewer hairs)

Draw the neck a bit thicker.

Draw the shoulder a bit wider.

Draw the collar bone explicitly

## Draw the body along with facial features

### Draw a child

Facial features  
of a child



8-headed body, looking  
strange as it is not for a  
child or adult.



Display the overall features of the figure with head-and-body proportion. Distinguish an adult and child with facial features proportion. The body will also be drawn with proportion following facial features.



Roughly 4-headed  
body (3.8 headed body  
precisely), looking like a  
child at first glance.

### Draw the features of Loli

7-headed  
body

Extend the distance a bit from  
the lower eye line to mouth,  
and the figure looks like an  
adult. In this way, we will keep  
the overall balance and create  
an image of a lovely girl.





Draw an adult

Facial features  
of an adult



About 3.5-headed  
body, looking like a  
Q-version figure.



About 9-headed  
body, looking like an  
adult.



# Practice in drawing

~ Drawing techniques of Kazuaki Morita ~



7-headed body

What are the drawing techniques that stress overall impressions? Beginners should first grasp the head-and-body proportion principle. Measure the body proportion with circle outline, and then proceed to draw the figure.

But professional painters will not measure the proportion one by one in the process of drawing. They have cultivated the feeling in place of actual measuring with experiences of drawing tens of thousands of paintings. Here, let's listen to master Kazuaki Morita, a cartoon designer, supervisor, and figure designer, to explain how he designs figures.

We must be aware that we should not only keep a watchful eye on how the professionals draw figures step by step. It is also unwise for beginners to follow the example of professionals by omitting many steps, if they expect to improve their drawing skills.

I expect we can see what steps professionals have left out in their drawings. This will help us a lot to improve our drawing skills. Planning it well before drawing is the first step to success.

(Interviewed by Hikaru Hayashi)

## 01 Think about the overall form of the figure – Start with the facial features-head outlines



① Draw the full body of the figure on a piece of paper. First, let's decide the size of the figure's head. If we want to draw a 7-headed body, we must think about it clearly first, even if we draw only a circle for head outline.



② Draw an oval without any details. Then, we must think about the proportions and angles for the facial features on the basis of this oval.



### About Kazuaki Morita

Kazuaki Morita was born in Shizuoka Prefecture, Japan. He has rich experiences in drawing cartoons. He is a very famous cartoon designer, supervisor, and figure designer, in the Japanese cartoon circle (consult P192).



③ Fix the orientation and proportion of facial features with cross curves. Before starting to draw, we must think closely about the angle of the figure, so as to have a way of drawing the figure.

**Draw the body outline – draw the figure by imagining the outlines for the head structure and sheltered body.**



④ Draw the outline from the upper part of the body to the waist.



⑤ Draw the outline of the thigh root, and then draw the pelvis outline downward from the waist.



⑥ Imagine the stand-up posture of the figure. Draw the left leg first, as if along an invisible draft. Then, go on to draw the right leg.



⑦ Adjust the outlines of the trunk and legs. Draw the outline of arms starting from the shoulder. Here, we must sketch the contour of shoulder with armor.



⑧ Pay attention to the posture of arms and draw the armored outline. In drawing, we must take into consideration armor-wrapped shoulders, and the lines for elbows, wrists and arms.

## 02 Facial features draft – it is enough to draw out the expression of the figure in this stage featuring head outlines

Rough outline of hair. First, think about the hair quantity and length, and draw along the outside of the figure's head contour line.



① Draw the contour line according to the formulated hairstyle beforehand.



② Draw the eyes.



③ Draw the pupils of the eyes.



④ When drawing the hair, we must consider the growth line and head curve to draft the hairline profile.



Overall outline of communicator components. Trace out a rough form according to the sizes of facial features and eyes.

⑤ Draw the ears. Now, we have the general facial features.



### 03 From trunk to feet – with explicit contour profile



① Draw the outline of necktie on the clothes.



② Draw the contour line of the chest. Draw the lower chest line first.



③ Fix the precise position of the chest with the bra. Then, draw up the centre line (the centre line of clothes is also the centre joint of clothes).

**The lines will change from here. This is called the key drawing stage in cartoon creation.**



④ Trace out with the contour line of the trunk first.



⑤ Trace out the lines for the pelvis.



⑥ Trace out the lines for leg roots.

**Trace out the lines for legs, in the order from the inner side to the outer side.**



⑦ Draw the lines for the left leg first, and then proceed to the knee.



⑧ Decorate the contour line and then trace out the external line.



⑨ It is the same pattern to draw the part from the knee to foot. Complete the lines for one leg first.



⑩ Draw the lines for the right leg. Remember to harmonize the thickness with the left leg in drawing.

#### 04 Draw up the forms of chest, waist, arms and hands, and details of clothes



① Draw up the forms of chest, waist and abdomen, and details of clothes.



② Draw up the lines of leg roots clearly.



③ Draw up the contour lines of clothes sleeves.



Draw up the hands exposed from the sleeves. We will not be able to describe the structures of arms and wrists, if we are unclear about them.

#### 05 Draw up the facial features outline realistically and define the external features of armor



④ Polish the hair properly to more explicitly display your imagination. Then, fix the contour line for the facial features.



⑤ Draw up the details from collar and necktie.



⑥ Continue to draw up external features with shoulder and waist armors.

## 06 Come to a conclusion



By this time, we may hold the rough sketch in our hands and observe it. Look at it from the reverse side to see if it is well balanced. Evaluate the drafted figure objectively and decide what to do next.



## 07 Draw details of legs and armor



① Modify the leg lines again, and draw up the boots.



② Basically complete armors for the left arm, with complex stereoscopic impression, and details in the waist.

## 08 Draw up head details



Refine the head communication equipment and hair.

To prevent the hand from rubbing the lines dirty, we may put a piece of paper under our hand in drawing.





# 09 Go on with details – complete 80 percent of rough sketch



① Draw up detailed features of right shoulder.



② Draw up hair threads visible behind the body (expressed in shadows) to define contexts.



③ Draw up details of sleeves.



④ Draw up pleated skirt.



⑤ Draw up details of boots.

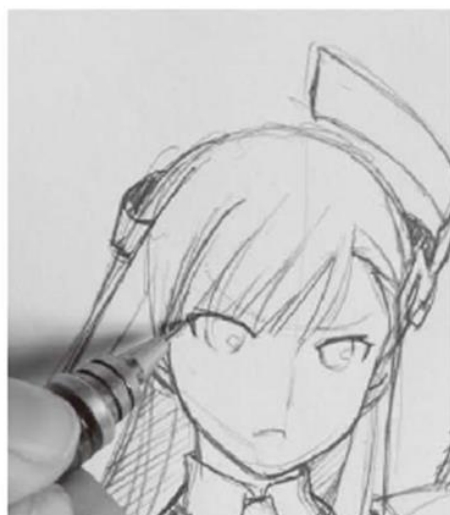


⑥ Complete the figure except for facial features.

## 10 Complete details for facial features and hair



① Move paper directions along with the directions and features of the drawn lines, so as to make it easier to draw the figure.



② Draw the contour lines of eyes explicitly.



③ Draw up the details of the eyebrows and pupils.



④ Balance the right and left. Draw up the external outline of pupils.



⑤ Polish the lines for hair threads.



⑥ Draw up shadows at the throat.



⑦ Modify the touches for the inner side to contrast light and shade.



Key points

- Remember to tidy the lines for the pupils to make them clear and definite.





## Questions and answers in interview with master Kazuaki Morita

Hikaru Hayashi: What is the key element to fix head-and-body proportion?

Kazuaki Morita: Head-and-body proportion of course. We will basically fix it when drawing the figure from head to legs. Sometimes, we will settle it down by drawing only the head and shoulder width for a 5-headed body figure. On other occasions, we may draw the hands and feet of the figure larger, and the head-and-body proportion will impress us smaller.

In a word, practice more and we will become skilled at it.

Hikaru Hayashi: How can we be skilled at it?

Kazuaki Morita: In the very beginning, if we draw the head, we must know where to put the neck to join the trunk, and where to put the chest, waist and thigh roots. We must draw more to be acquainted with them.

Once we are skilled at it, the proportion of the upper body will not change. We may modify the positions of thigh roots, knees and legs later.

Hikaru Hayashi: What are the main problems with drawing overlooking angle and all postures of the figure (such as the posture in the right chart)?

Kazuaki Morita: The shoulders and thigh roots are crucial. In other words, we must be aware of the parts even if we cannot see them.

Hikaru Hayashi: Why do we have decimal points when measuring the actual head-and-body proportion of the figure?

Kazuaki Morita: We must adjust the head-and-body proportion of the figure according to actual situations.

For example, we may adopt the overlooking angle and draw the face a bit larger if we want to create a lovely environment. We may draw up the figure with our own imagination.

We may properly "extend" or "narrow" the figure on the basis of the benchmarks according to actual situations. Modified in this way, the painted figure will naturally show decimal points in the head-and-body proportion.

Take the example of a 8-headed body figure. It may be modified into a 6-headed body figure when the whole work permits. It must be analyzed according to concrete situations. We will draw up the most impressive head-and-body proportions in line with the scenes and demands.

This is why we have decimal points in the head-and-body proportion.

Hikaru Hayashi: The benchmark you said must be a fixed head-and-body proportion in our mind that is cultivated after practices and may be modified freely.

Thank you for your time and attention for the interview.



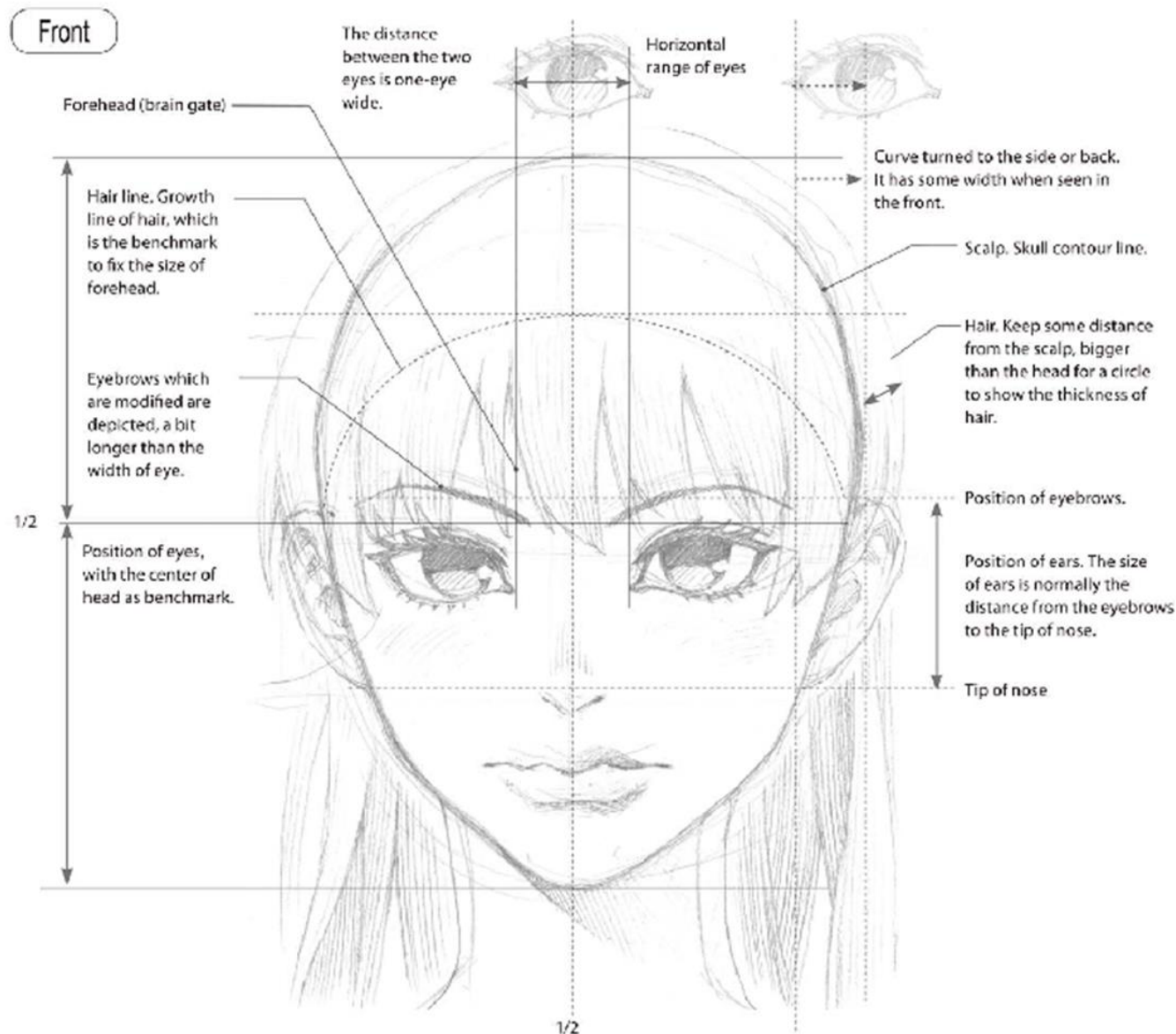


## Chapter Two

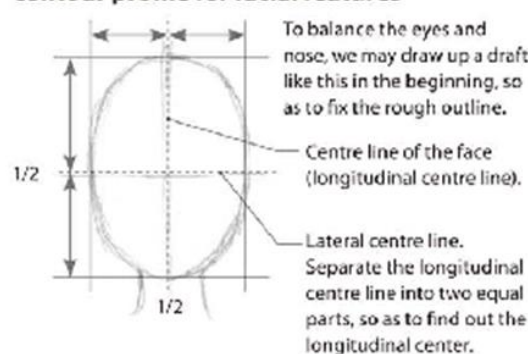
# **Draw up facial features**

# Techniques to draw up facial features

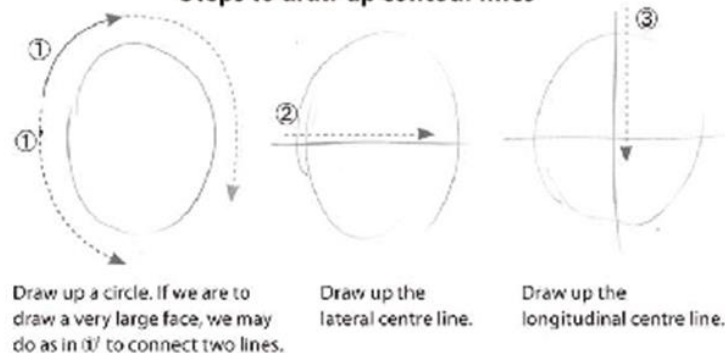
## Proportion of facial features



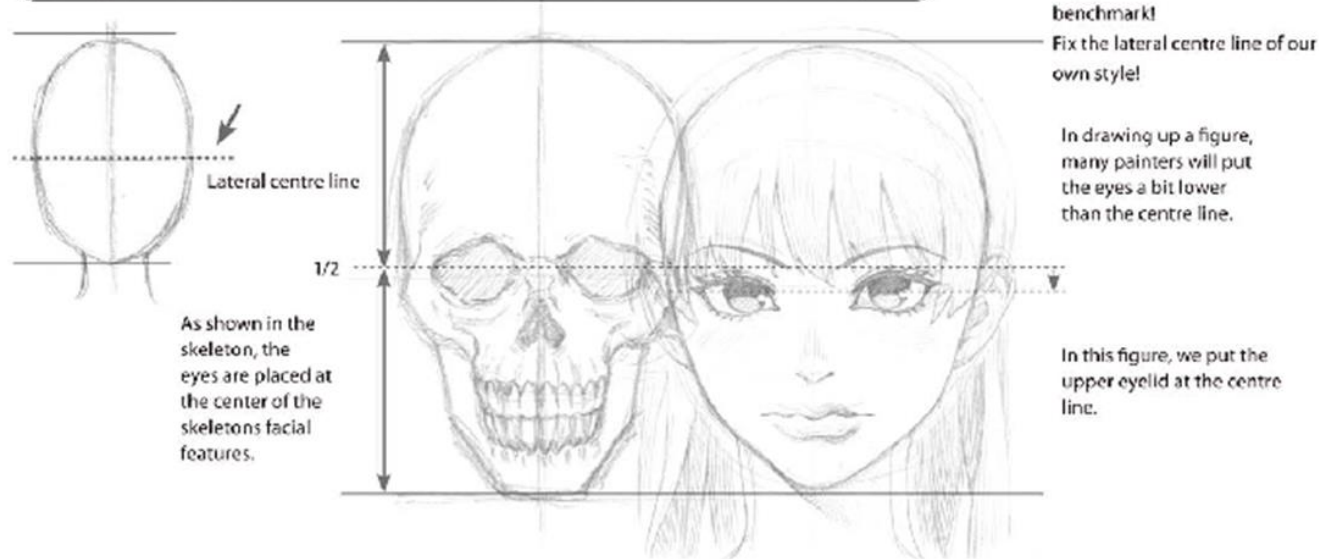
## Draw up the fundamental head contour profile for facial features



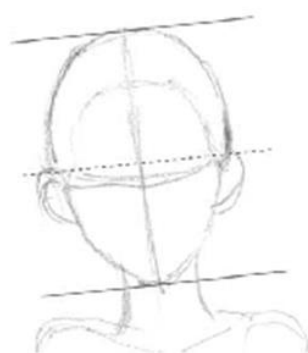
## Steps to draw up contour lines



## Rough sketch of facial features. Relations of lateral centre line and the eyes



### ● Practical drawing in the illustrations



① Big contour profile

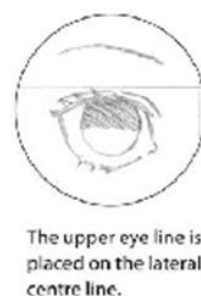
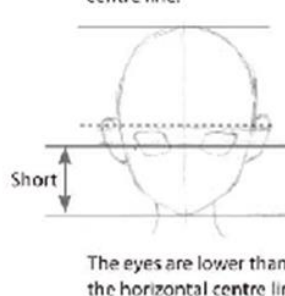
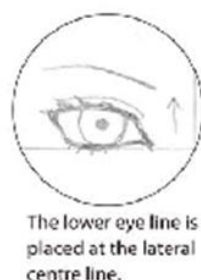
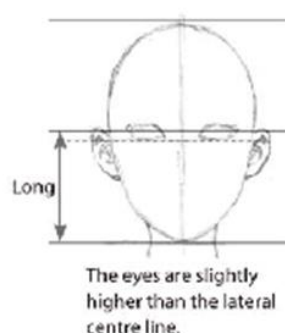
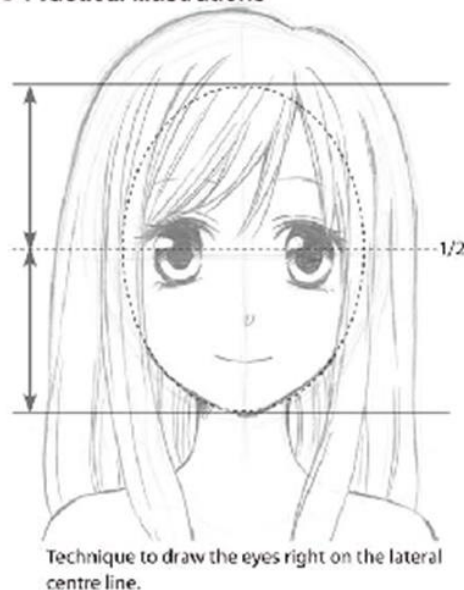


② Draw up the eye and hair outlines on the basis of the big contour profile.

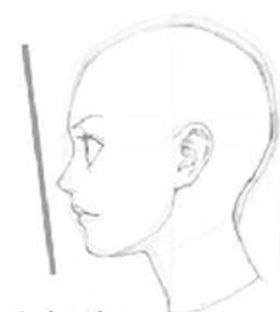


③ Depict the details to complete drawing. Fix the height of the left and right eye according to the lateral centre line.

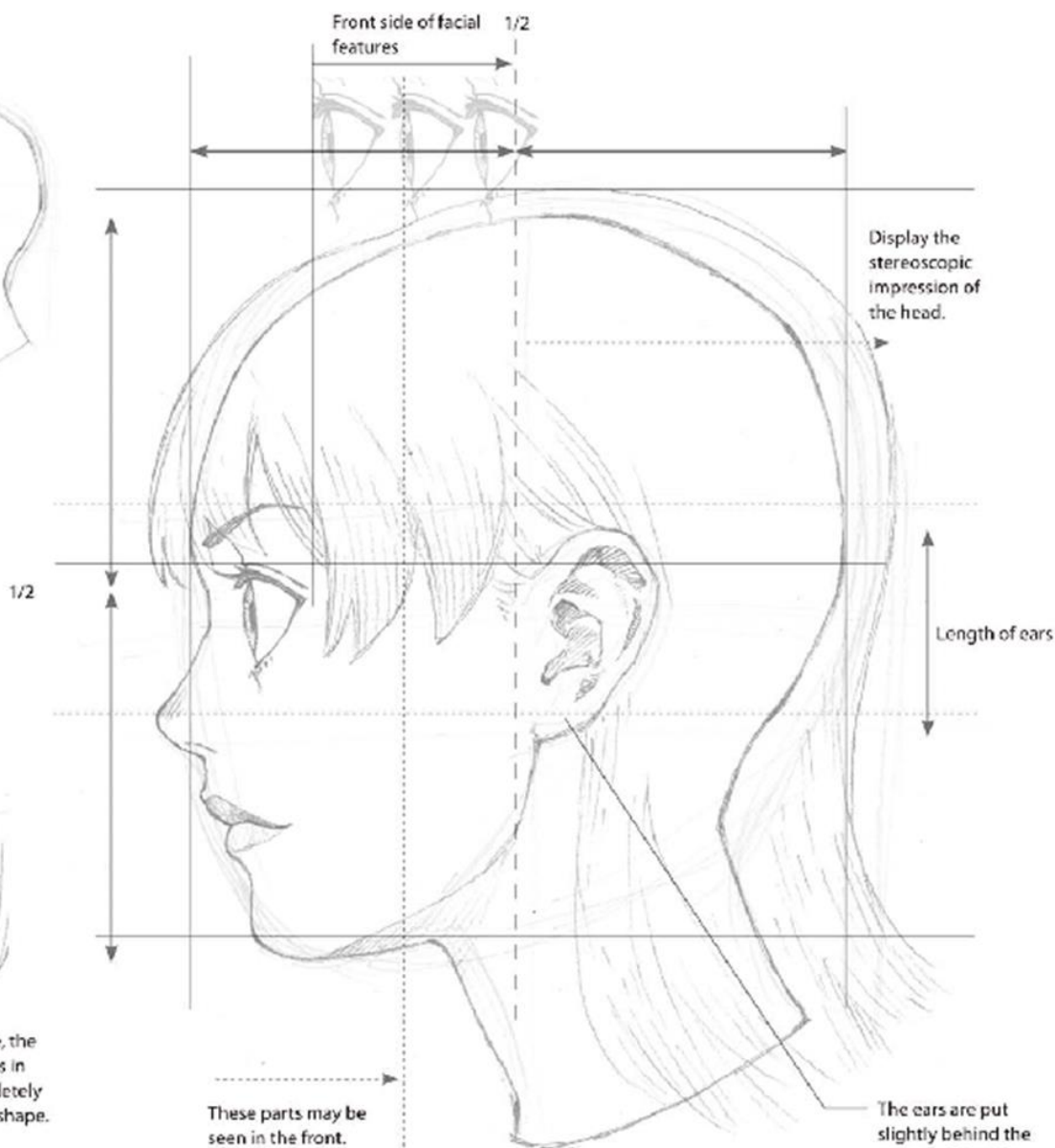
### ● Practical illustrations



## Front side



The facial features are slightly slanted in overall direction.



Short



When put in the front side, the shape of eyes illustrated as in the above chart are completely different from the frontal shape.

These parts may be seen in the front.

The ears are put slightly behind the center of the side.

## ● Modification techniques often used to draw the front side



Draw the eyes a bit backward.



Draw the eyes basically the same as in the front.

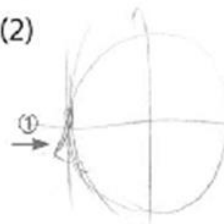
## Steps to draw the big contour profile

(1)



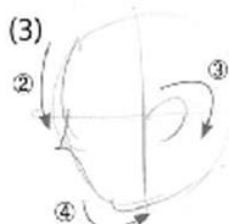
Draw up the circle and cross curve in basically the same size as in drawing the front face.

(2)



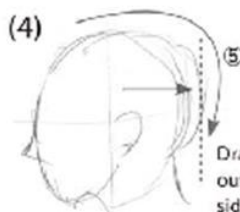
Draw up the contour line of the nose.

(3)



Draw up the contour line from the forehead to eyes, and then the outline of ears and chin.

(4)



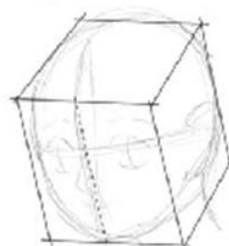
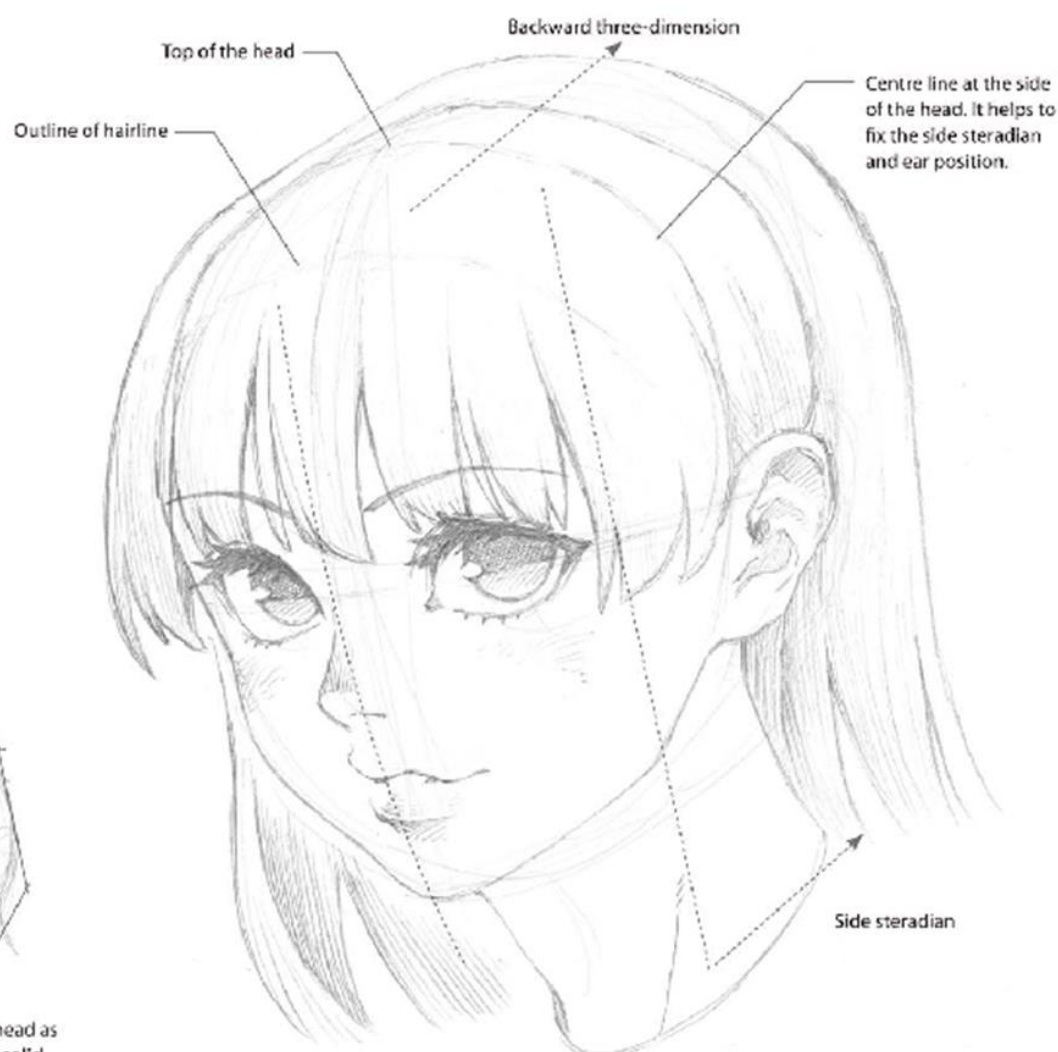
Draw up the outline of the back side of the head.

It is all right to put the ears a bit backward.





## Semi-side

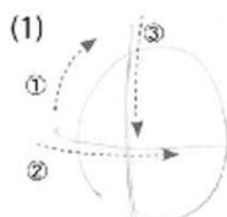


We may imagine the head as a ball in a rectangular solid (not a cube).

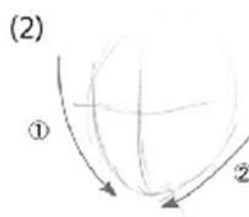
## ● Expressions from facial features modification and position deviation



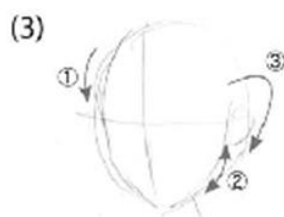
### Steps to draw the big contour profile



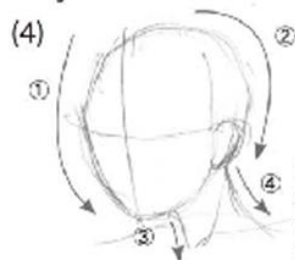
Draw up the circle and cross curve to fix the deflection angle of the face.



Sketch the facial outline of the figure.



Modify the facial outline and draw ears.



Modify the overall head contour and draw the neck.

In drawing, remember that facial lines ① and back-of-head lines ② are in "relative" relations.



## Steps to draw the figure

Observe how to apply the big contour profile of the head in actual drawing.

### Front side



① Find out the lateral centre line to fix the position of eyes.



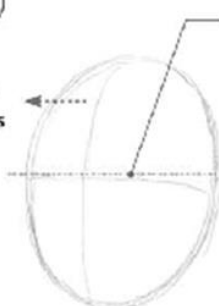
② Fix the height of ears with the lateral centre line.



③ Draw the hair.

### 3/4 side

The longitudinal centre line bulges slightly in the direction of the face.



The lateral centre line is basically put in the center, i.e., eye level in normal situations.



① Sketch out the big contour profile of the head and fix the facial orientation and angle.

② Depict the face type and then draw the eyes and ears.

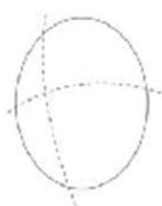


③ Draw up the details of facial features.



④ Complete with the hair.

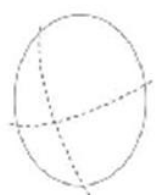
● Fix facial orientations and angles with circles and cross curves



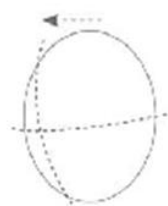
Bend the lateral centre line upward, if we want to create the pitch-up impression with low angle view.



Vivid expression, effective in slight low angle view.



Slightly downward angle. It needs to bend down the lateral centre line.



Approach the front side angle, and the longitudinal centre line must slant to the external side.



It needs to see the top of head, if we want to create the sense of lowering the head.





# How to draw facial elements

## Understand the relationship of these elements

Facial features comprise eyes, nose, ears and mouth. Let's learn the structure and techniques to draw these basic elements.

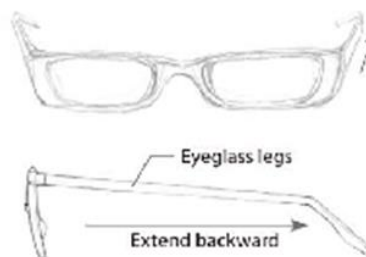
Let's experiment with drawing a face with eyeglasses. To draw the facial elements well, we must have a clear idea of the relationship of eyes, and nose.



Front



There is some distance between the eyes and ears. This distance is the curve bending towards the back.



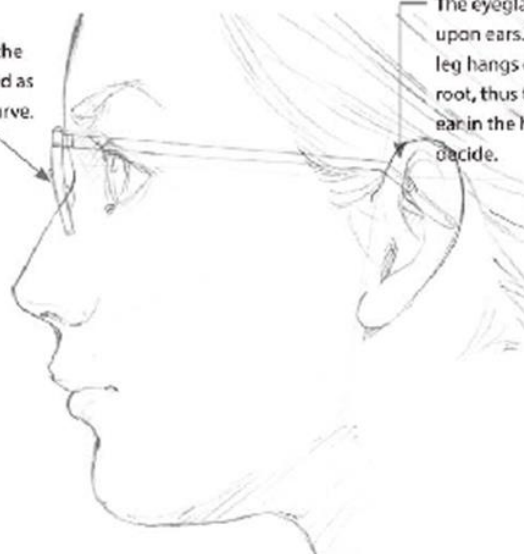
Extend backward

The lateral and vertical orientations of eyeglasses are basically paralleled. The eyeglass legs extend towards the back of the head.



Front side

The bridge of the nose is revealed as a protruded curve.



The eyeglass legs are put upon ears. The eyeglass leg hangs on the ear root, thus the position of ear in the head is easy to decide.

The eyes and ears are basically held in a same line.





3/4 side



The positions of ears are invisible.

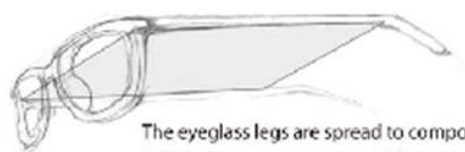
The horizontal directions are parallel.

The eyeglass leg near the back of the head is a little wider.

Extend to the longitudinal direction from the side of the head.



The impression of looking up the front side.



The eyeglass legs are spread to compose a rectangle. At this time, we may use the low angle view, underside as the benchmark to draw the figure.

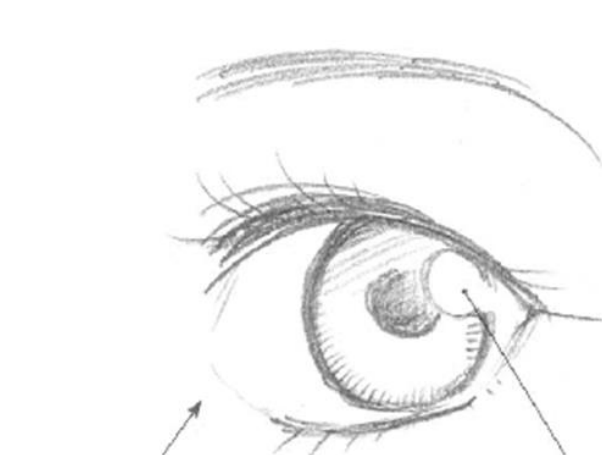
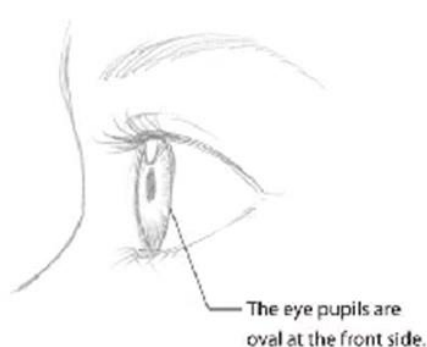
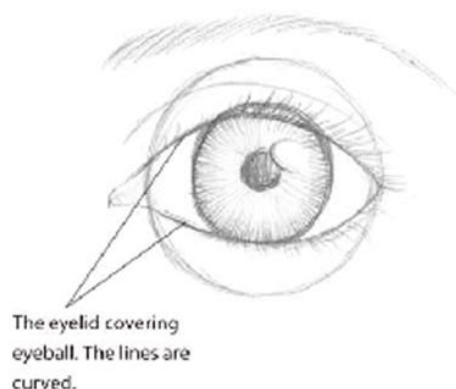
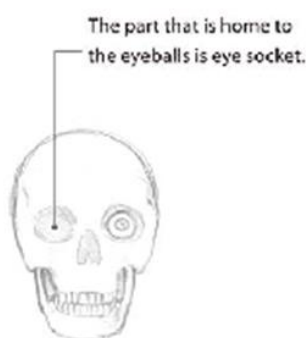
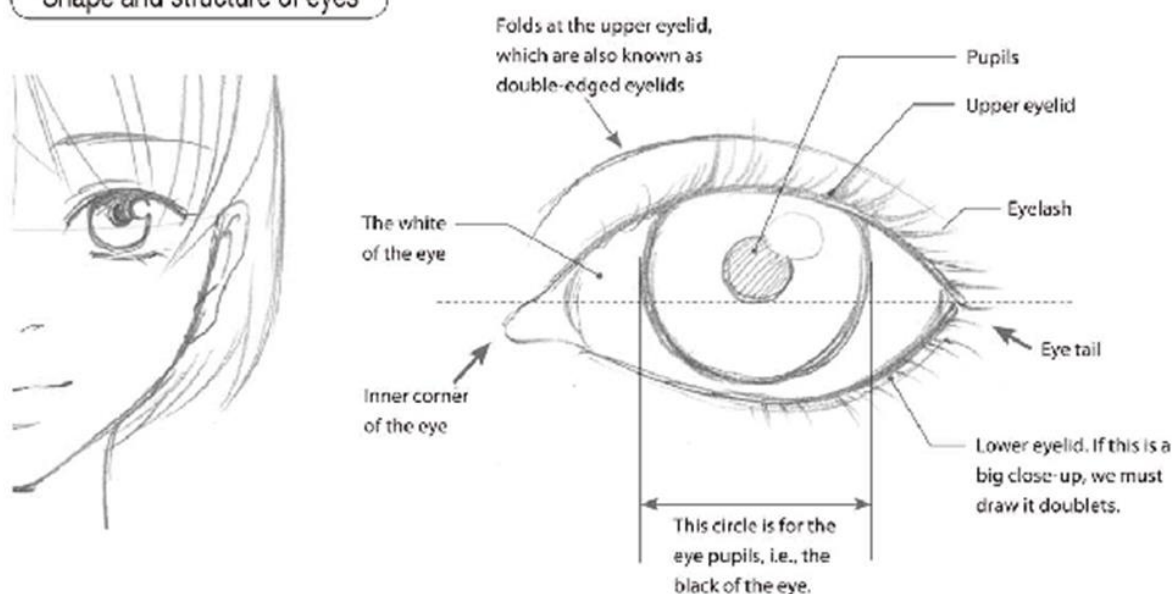


Draw the parts under the nose, mouth, chin and ears clearly to create a stereoscopic sense.

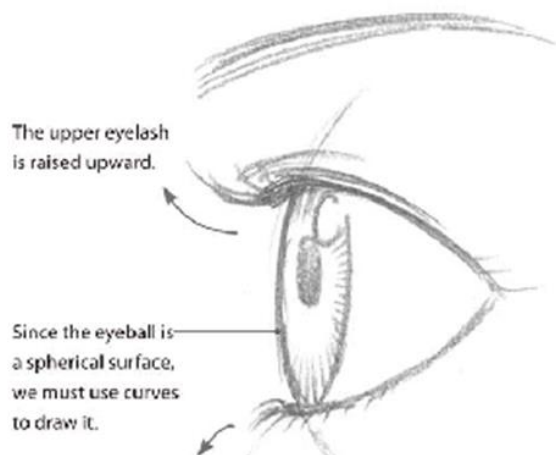
# Eyes

## Shape and structure of eyes

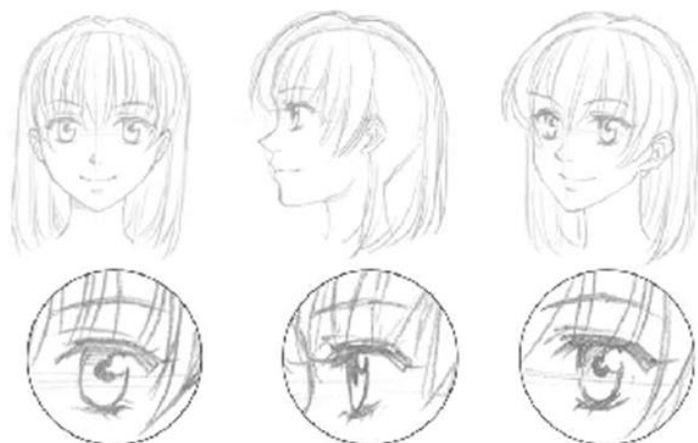
Eyes are comprised of eyeballs and eyelids that cover the eyeballs. Whether eyes shine decides the sense of existence of the figure. This is an important point to endow vitality to the figure.



Highlight. Reflection of light in spherical surface. So, the form is rounded.



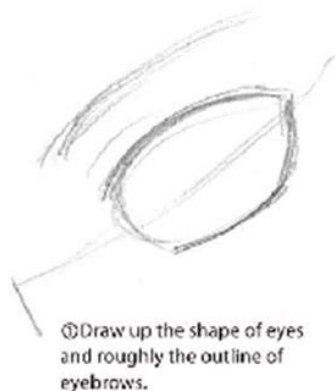
## Steps to draw up eyes



Think over the angles first before drawing any types of figures with any shapes of eyes.

### Key points

- Proportion of the white of eye and pupils, and the size of pupils
- Shape of eyes and thickness of eyelashes
- Harmonize eyebrows and eyes to draw the figure well



① Draw up the shape of eyes and roughly the outline of eyebrows.



② Erase the lines for eye tails and eye corners. Draw the lines for upper and lower eyelids. Start to draw eye pupils.

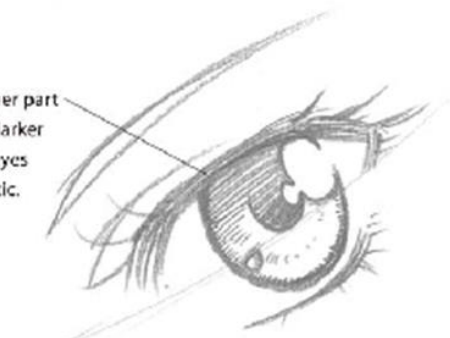


③ Draw the lines for eyelids and eyelashes clearly. Reveal the highlight in the eye pupils.



④ Modify the lines to make eye pupil contour lines thicker.

Draw the upper part of eye pupil darker to make the eyes more energetic.



⑤ Depict the details of eye pupils to complete the drawing.

### Crucial key points

The contour lines of eye pupils must be drawn as black and thick as the eyelid lines, with explicit lines. Otherwise, the eyes will look weak reducing the charms of the figure.

## Techniques to draw ordinary eyes, up-turned eyes and droopy eyes

In cartoons, eye close-up shows figure roles. So, keep in mind to design and draw figure's eyes with distinct shape features.

### ● Try to connect eye tail and inner eye corner

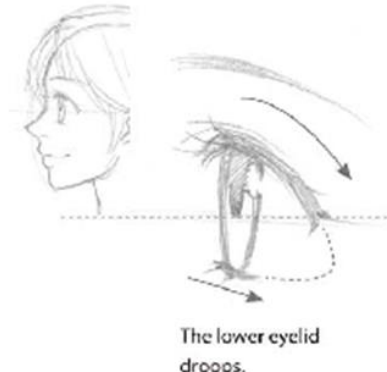
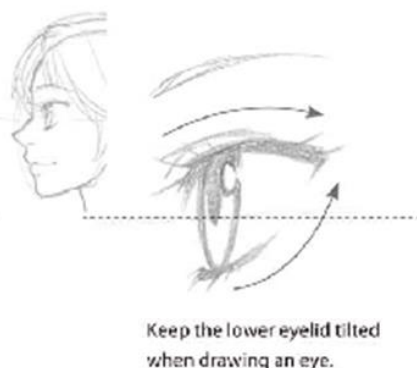
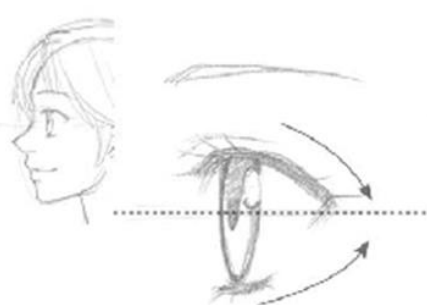
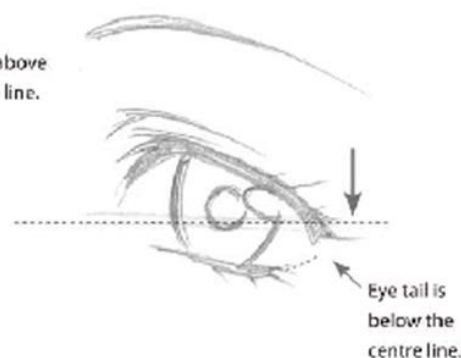
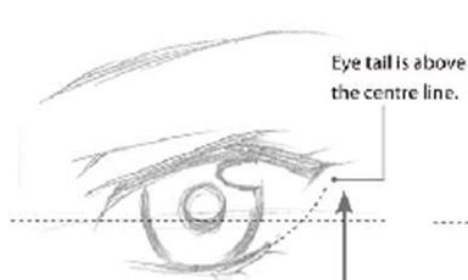
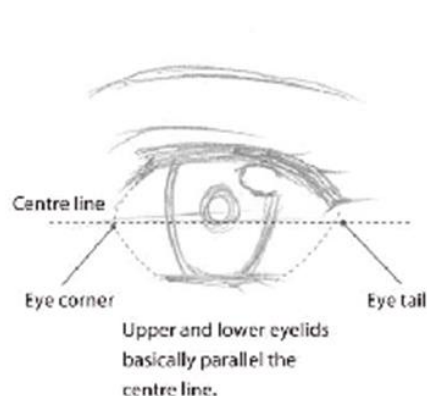
Ordinary eye



Up-turned eye



Droopy eye



### ● All these changes will alter the depth and width

Ordinary eye



Up-turned eye



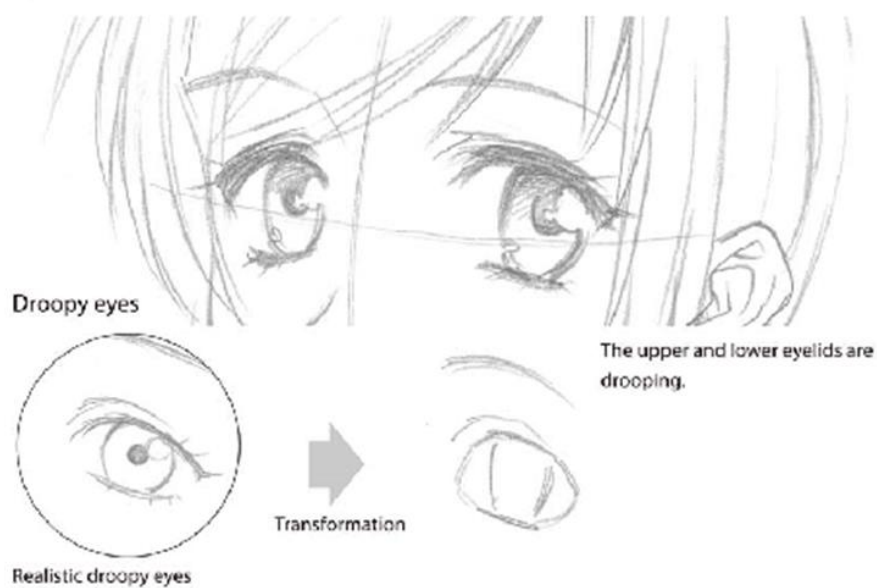
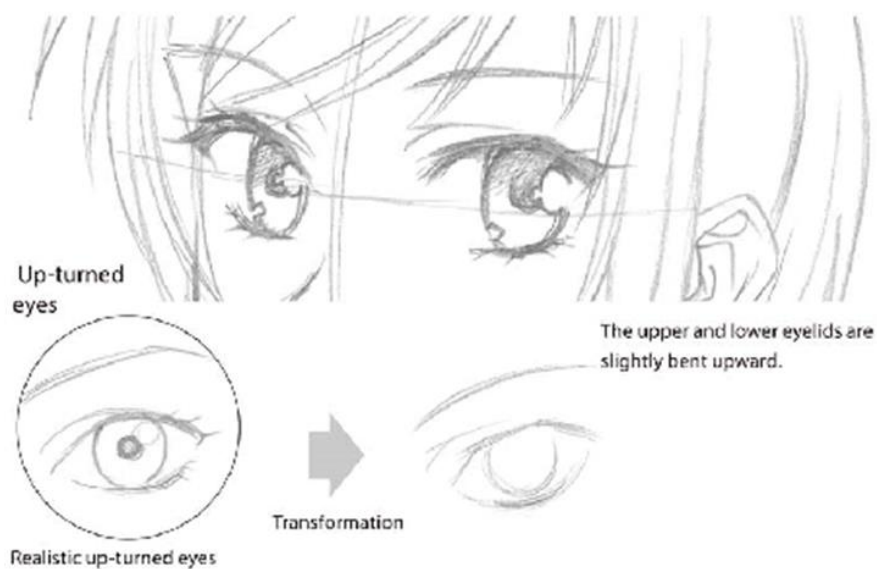
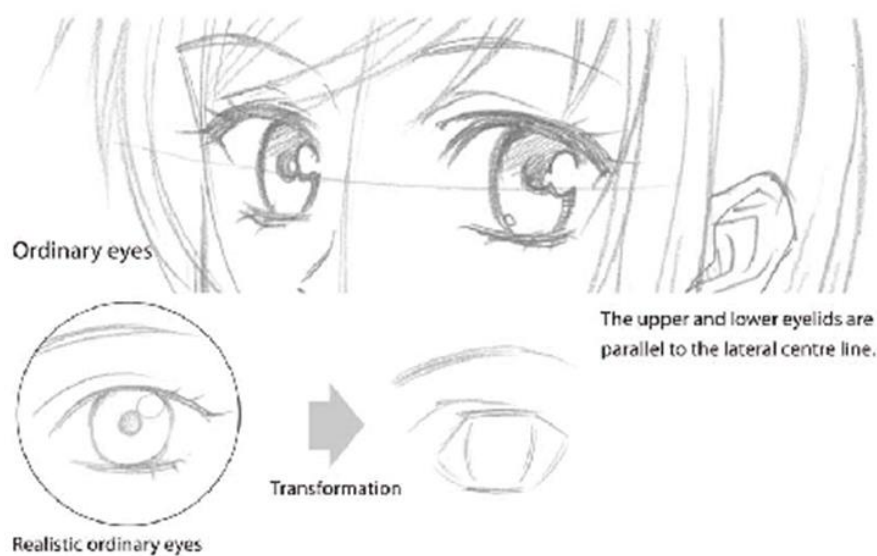
Droopy eye



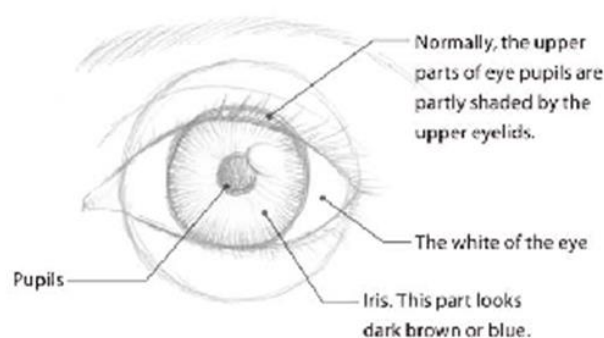


● 3/4 side angle

Draw the eyes with the lateral centre line as benchmark.



## Express the pupils



## Changes in the size of eye pupils

Normal situation

A bit small

Actually, the eye pupils do not change. The inner centre of the pupils change.



The pupils will enlarge in darkness.

The pupils will contract in bright places.

## Color revelation of eye pupils



Black. The iris is mainly black.

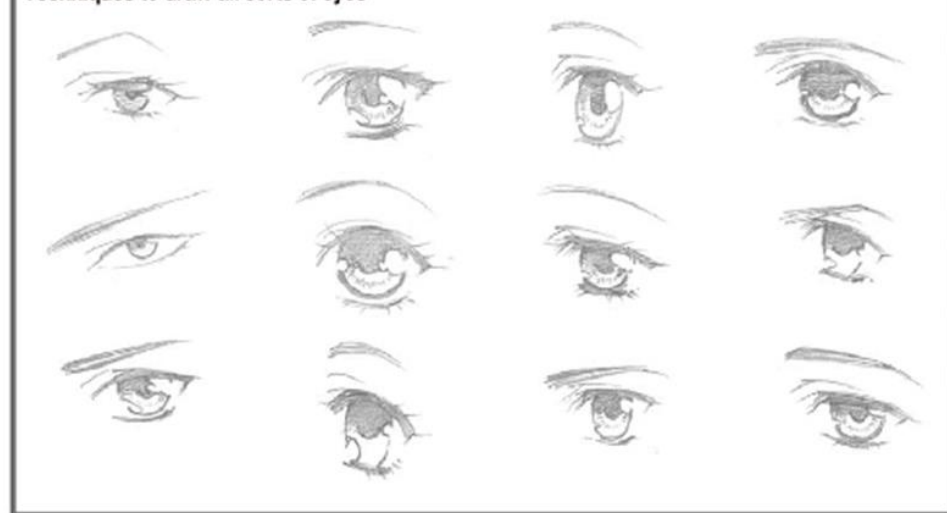


Red and dark brown. It leaves a neutral tone.



Blue, yellow, gold and silver. Reduce lines and look white.

## Techniques to draw all sorts of eyes



- Shapes of eyes
- Eyes change by integrating the size of pupils, thickness of contour lines, iris, and highlight. Since eyes are ball-shaped, the highlight is equally round.



## Eyelash

Eyelashes are mainly drawn with fine lines, as well as bolder lines to thicken eyelids.

### Draw up eyelashes



Common drawing methods



In clusters

### Omit and modify eyelashes



Simple type



Explicit type



Point type/emphasis type

## Bring changes to the eyes

Experiment with changing the angles of upper and lower eyelids

### ● Change the angle of upper eyelids (lower eyelids remain unchanged)



Ordinary eyes



Up-turned eyes



Droopy eyes



### ● Change the angles of lower eyelids (upper eyelids remain unchanged)



Ordinary eyes



Up-turned eyes



Droopy eyes

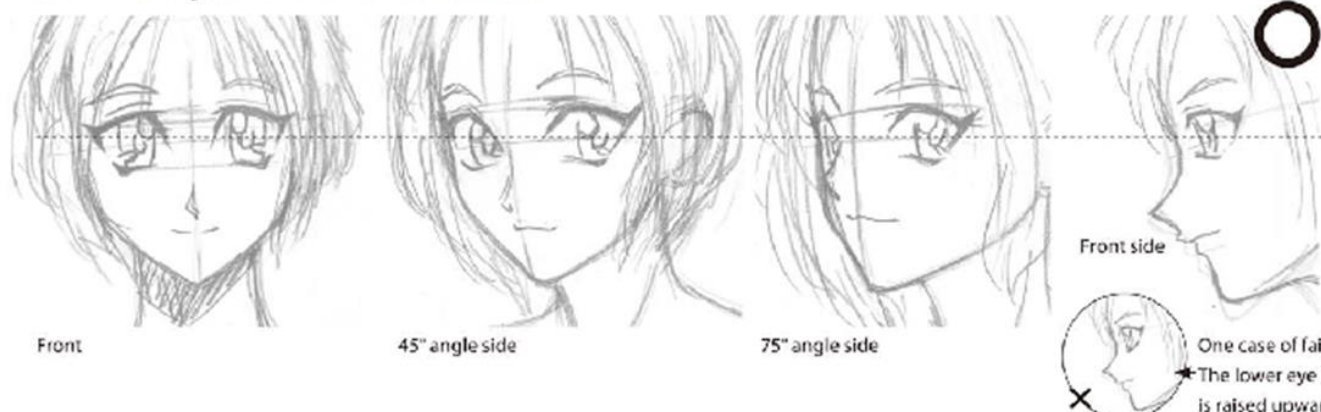




## Grasp the changes in eye shapes at different angles

Draw eyes at different angles. Pay attention to the angles of upper and lower eye lines.

### ● Normal angles from the front to front side



## Flexibly apply the personalities of the eyes in establishing the figure

### The role of up-turned eyes

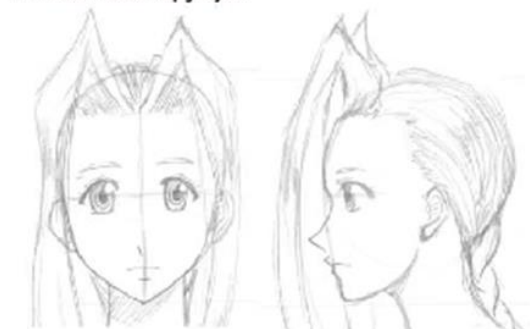
In order to express the same role from different angles, we must design well the shapes of eyes and sizes of eye pupils, from both the front and side. In this way, we will enable people to see which role the figure plays by simply glancing at the eyes. Therefore, we must expand differences between different roles in the course of designing.



Soft glances. Closed eyes should be able to reflect the quantity of eyelashes.



### The roles of droopy eyes





● **Changes in eyes with angles of elevation and depression**

Take the lateral centre line as the benchmark. Pay attention to the angles of the upper and lower eye lines that decide the shapes of eyes in drawing.



Ordinary eyes



Sense of low angle view



Sense of high angle view



Up-turned eyes



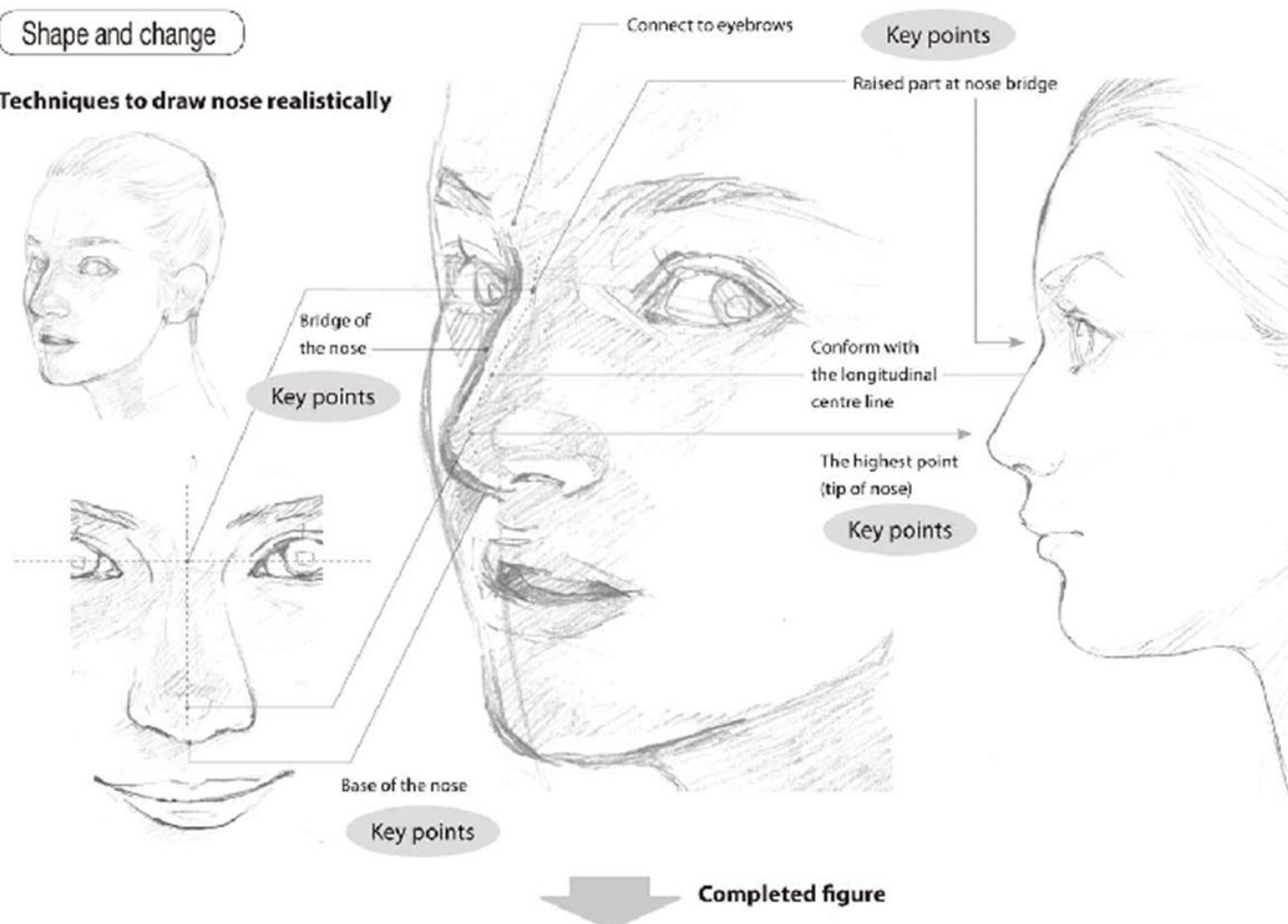
Droopy eyes



# Nose

## Shape and change

### Techniques to draw nose realistically

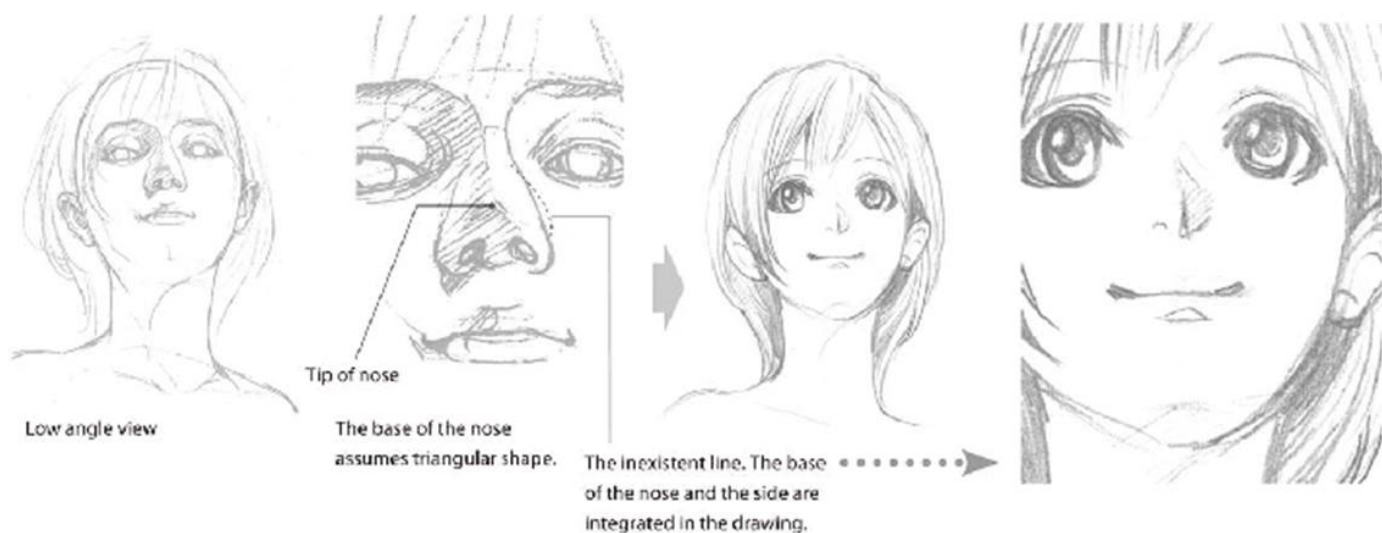
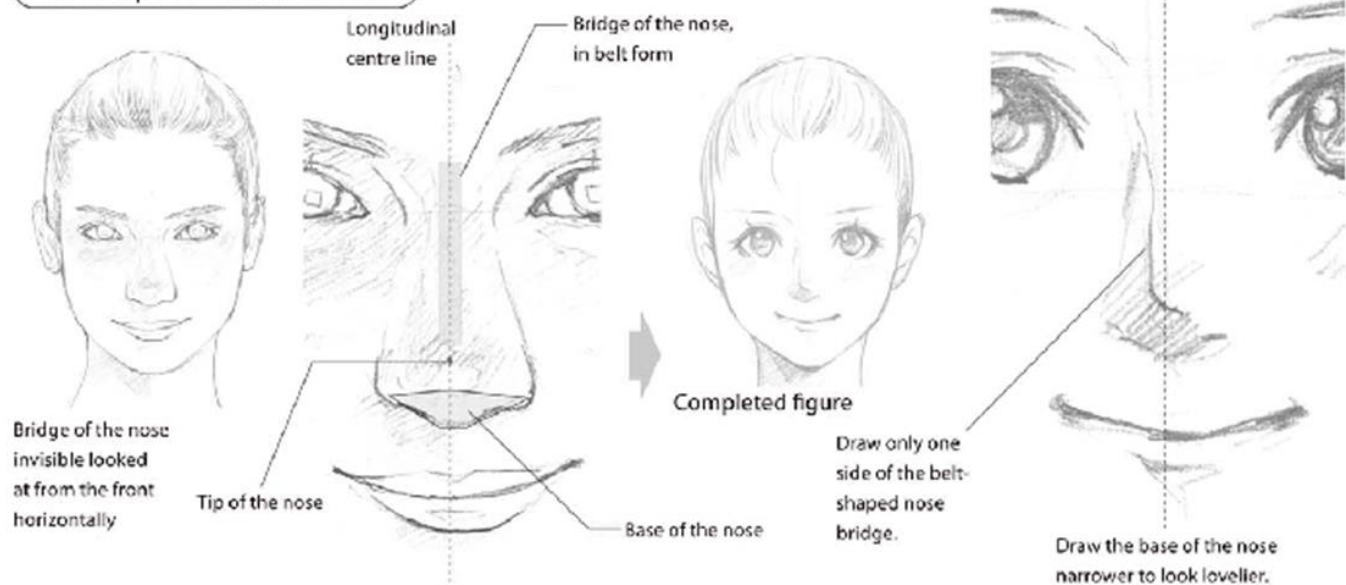


"x" shape technique to draw the nose

The parts starting to rise on the nose bridge, i.e., nose bridge, tip of nose, and base of nose, are expressed with lines. The nose is basically signified, looking like a "x" shape.



# The shape seen from the front





# Techniques to draw all types of nose

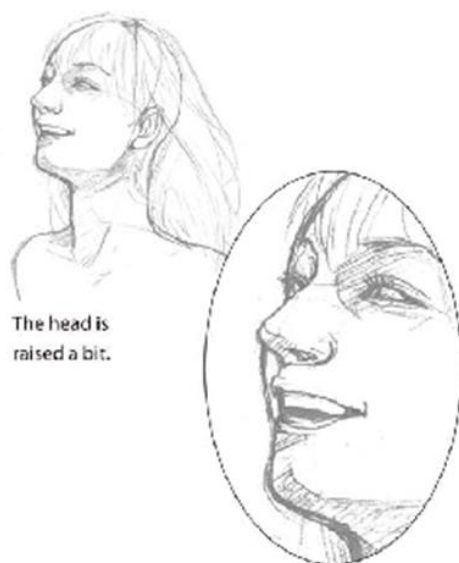
In cartoons, nostrils may be omitted. They may be expressed with short lines, even if they are presented.



Nostrils as seen in normal situations.



In the low angle view the neck bends slightly.



The head is raised a bit.







The side with 85° low angle view.



Raise the head for low angle view.



Lower the head for high angle view.



# Mouth and lips

## Lips

Normally in cartoons you draw a line between the nose and chin, and that is the mouth. But in drawing, we must remember the mouth may be open. This is a closed mouth.

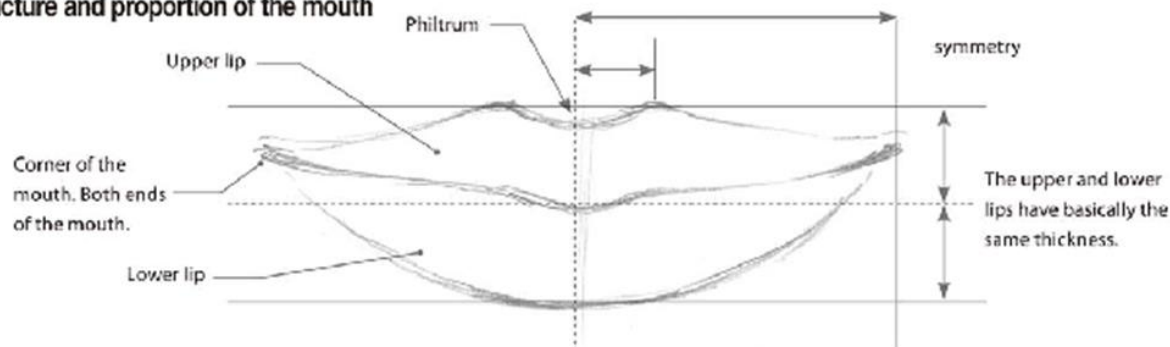


In conventional practice, the expression of lips is omitted.

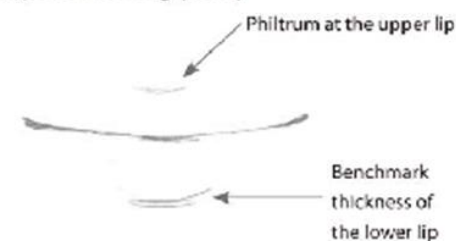


Draw up the contour line of lips. This makes the mouth more impressive. Even if the mouth is drawn small, the stereoscopic contour is very attractive.

## ● Structure and proportion of the mouth



## ● Steps to drawing (front)



① Draw a normal sized lip in the front with your imagination



② Find out the centre line and draw the mouth with balance.



③ Modify the lines.

## ● Ordinary 3/4 side



Without lips



Reveal the contour lines of the lips.



Draw with the longitudinal centre line as the benchmark.



When drawing from the ordinary semi-side angle, first draw up the outline of the mouth, and then follow the guidelines to draw the front mouth to keep balance.

## ● Technique to draw the side with angles



Technique that does not reveal the lips (simply draw up philtrum at the upper lip and the shadow at the lower lip).



Technique to reveal the lips.

## ● Steps of drawing



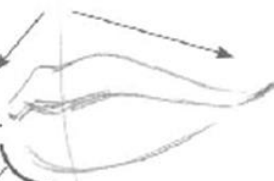
Fix the thickness of the lips.

① Draw up the rough feeling.



② Draw up the rough contour line.

The lines become shorter because of perspective.



Reveal the thickness of lower lip with curves.

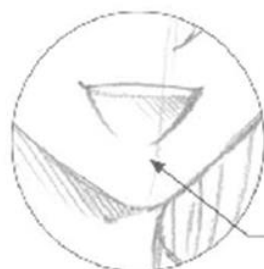
③ Take the longitudinal centre line as the benchmark to modify the shapes at both sides.



Draw up the moderate V shape.

④ Complete the drawing.

## ● Technique to draw up open mouth



Do not draw the lips.



Draw up the lips. The shapes of the mouth must be expressed.



① Draw up the overall contour line. The outlines of teeth must also be revealed.



② Modify the shape. If we want to draw up the lips, we must depict the inside of the mouth.

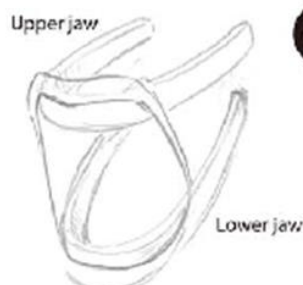
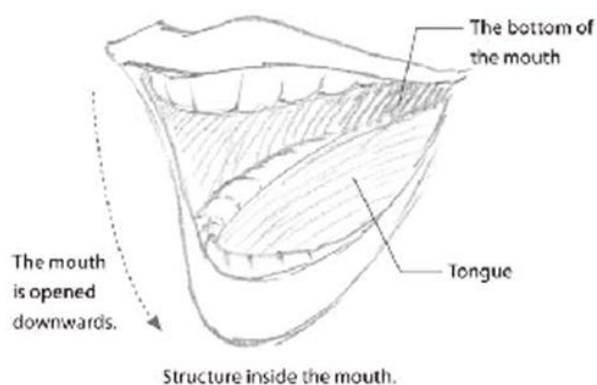


③ Complete the drawing.



## Open mouth; Structure of the mouth

### Smiling open mouth

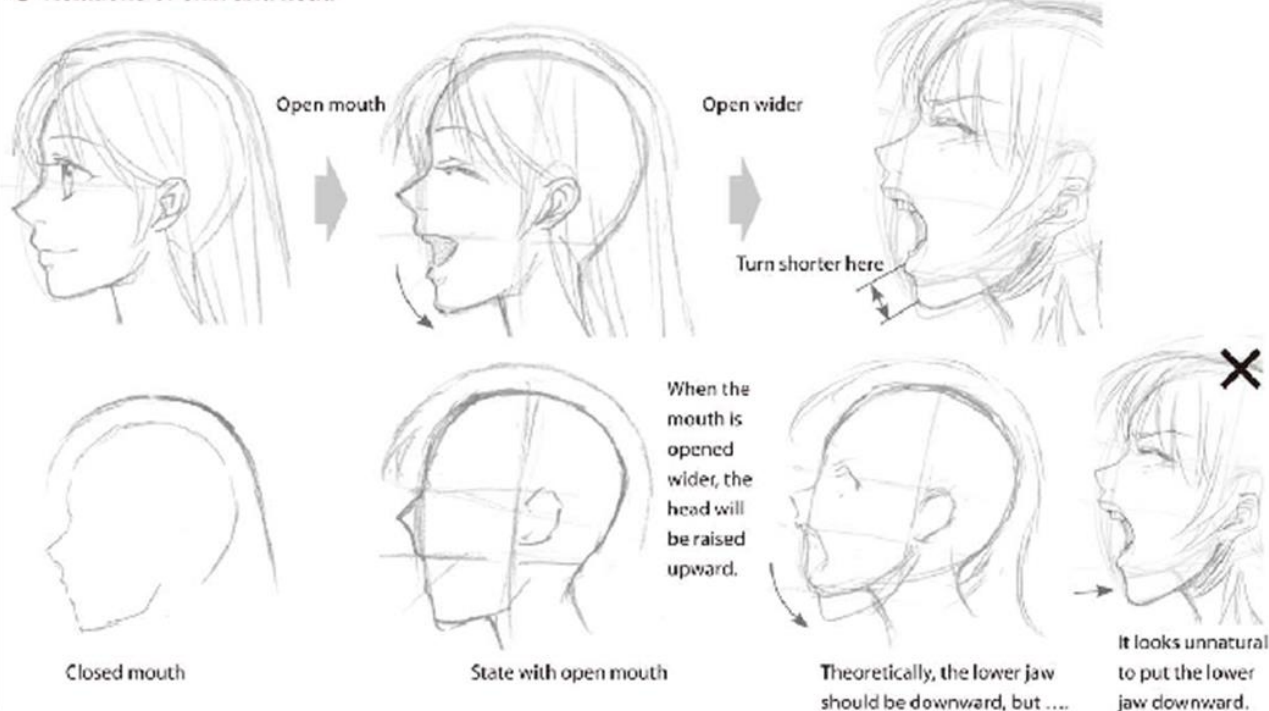


When the mouth is opened, the upper and lower teeth are in such a state. Keep an eye to the upper jaw and lower jaw in the course of drawing. The teeth are lined in U shape.



When the mouth is opened, the upper jaw and lower jaw are not paralleled.

### Relations of chin and head





● Open mouth in speaking



Reveal only with lines. Depict with simple curves.



Draw up the shape of upper lip, roughly in U shape or V shape.

Draw up the contour line of the lips. The teeth of lower jaw must also be drawn.

● Reveal the mouth

Do not draw the lips



Closed mouth. Draw the mouth corners darker to leave stereoscopic impression.



Open up the mouth slightly.



Open the mouth wider. The teeth of the upper jaw are expressed with simple lines.

Curves at the upper lip are parallel with curves of the teeth.

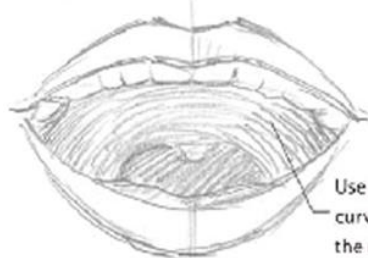
Draw the lips



Closed mouth



Open the mouth slightly to show teeth.



Open the mouth wider to see throat head.

Use paralleled curves to draw the upper jaw and display the round oval space.

## Show expressions

### ● Startled and dumbfounded



Omitted type

To express the startled look, we must keep the mouth into a longitudinal long oval (O shaped) or a small hexagon. Such a shape will achieve sound revelation effects.



Hexagonal type

We must draw up the lip shape and the inside of the mouth.

Broad outline. We must start with broad outline no matter what we are going to draw. At this stage, the general shape of the mouth may be used to express feelings.



O shaped type



● **Angry**

The mouth is drawn into a laterally long quadrangle, giving a better effect.



**Changes in startled and dumbfounded expressions**



But the figure is actually startled. The expressions are closely associated with the eyes and eyebrows.



Laterally long quadrangle



Longitudinal long quadrangle

● Scream and howl



Similar to anger, the mouth may be drawn to quadrangular to achieve strong effects.



● Laugh

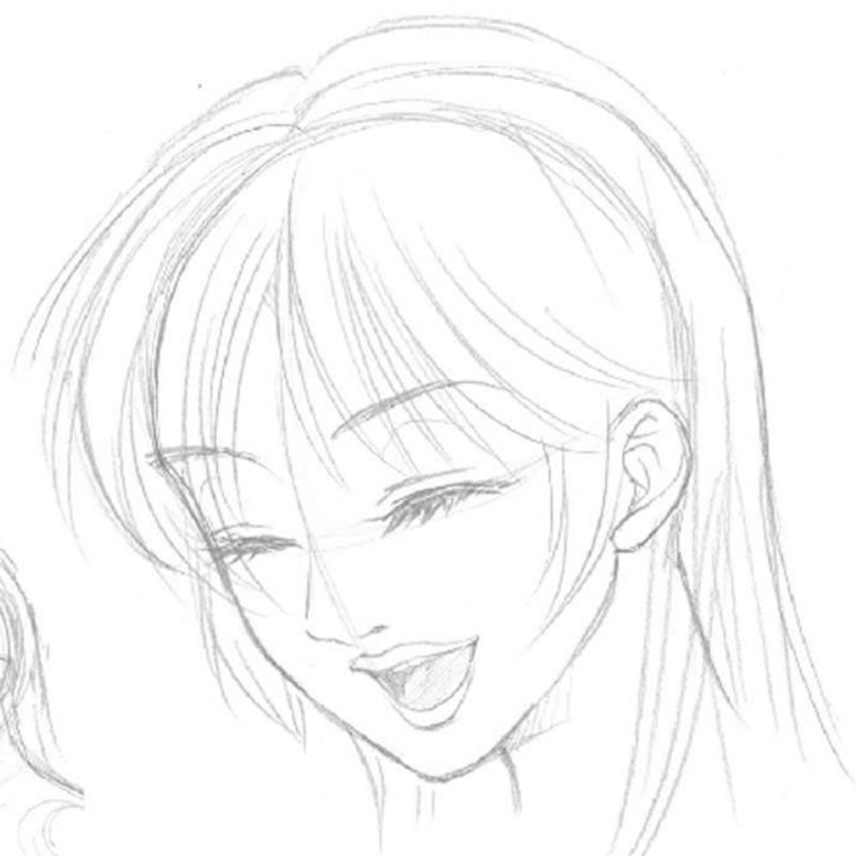


When laughing, the figure shows a triangular mouth.





Smile timidly with lowered head.



Head up and laughing with open mouth.



It will make us uncomfortable to draw the oval space too meticulously when the mouth is opened wide.



It is enough to draw up the lips, teeth and tongue. Remember to omit unnecessary elements.

## Ears

### Position and size of ears



Ears can hardly attract people's attention when viewed in the front.



In the front side, the ears seem a bit smaller in accordance with common people's physical proportions.



But it might look too dull to draw ears in the position between eyebrows and nose, as stipulated by theories.



If we totally abandon theories and arrange the ears well with other parts, we may make the figure lovely. That is permitted.

### Key points

#### ● A small principle

Figure exposing the inside of the auricle when seen in the front



Capable of seeing the internal structure of auricle.



The ear form at the front side shall be the original external contour when seen in the front.

#### ● Key points in drawing



Angle of the ear when seen from the side. It is not vertical, but slanted slightly.

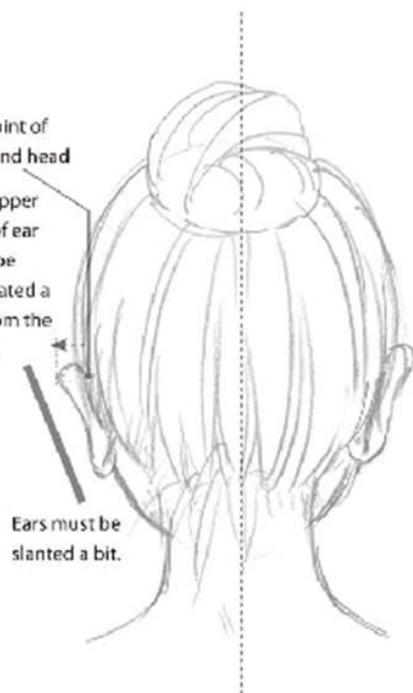


A case of wrong drawing. Pay slanting in drawing.

The joint of ears and head

The upper part of ear shall be separated a bit from the head.

Ears must be slanted a bit.



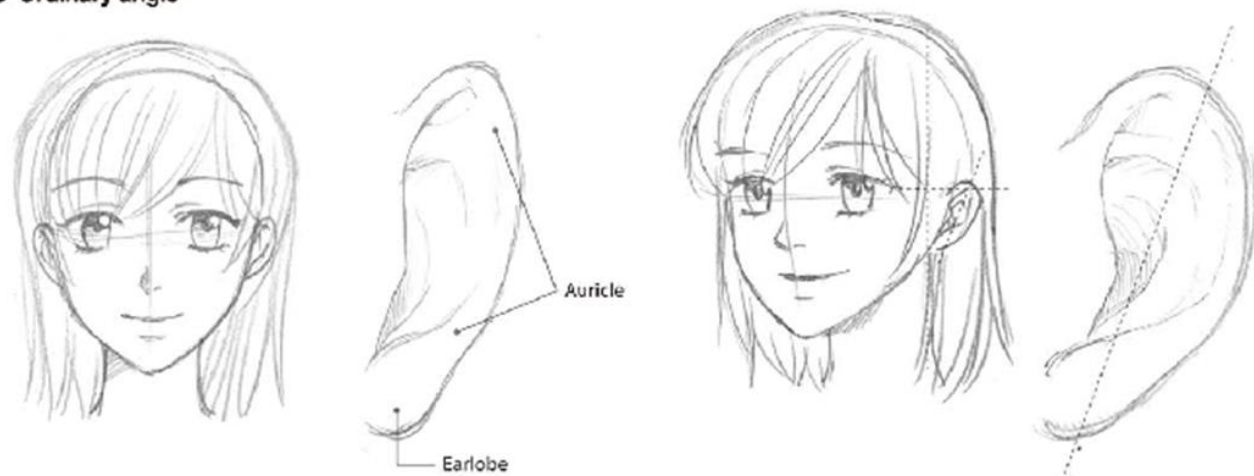
No hair is put around the ears.



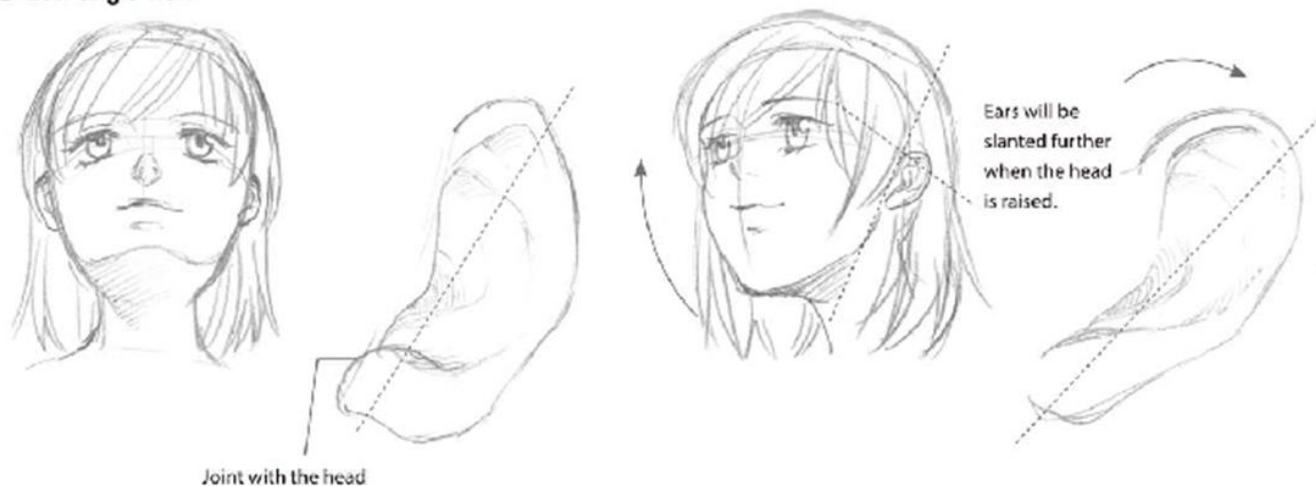
Display hair well around ears when drawing ear-exposing hairstyle.

Modify the shape of ears according to the orientation and angle of head

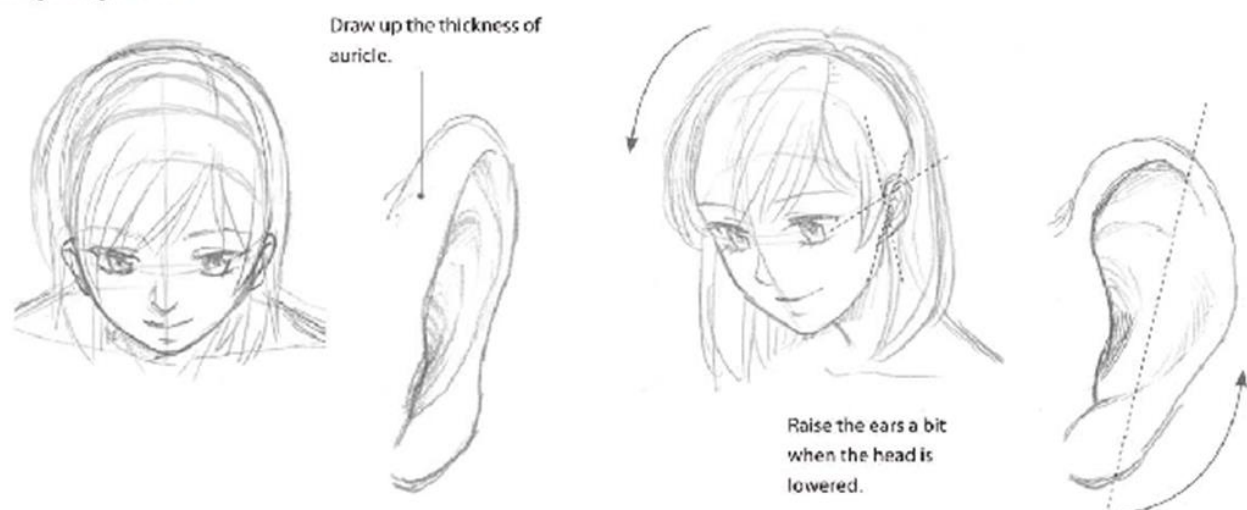
● Ordinary angle



● Low angle view



● High angle view





# Start with hairstyle in designing a figure

In designing a figure, it is crucial to let people know at a glance which role she takes. To this end, hairstyle is important.

## The overall change of appearance brought by the hairstyle

Figures with same facial features will look quite different, if they have disparate hairstyles.

Cover up the forehead with hair shade.

Increase the thickness of hair to make it look bigger.

Exposing the forehead fully will make the figure look more open.

The hair looks thin, showing the form of the figure's skull and making the head look small.



Bare head also shows an attitude. In drawing hairstyles, we must make the head contour distinct. Let's start practicing from here.

It makes hair look thicker to hang it freely over shoulders.

## Draw up easily distinguishable figures

### ● Identify the figures at first glance



Silhouette



Promptly know the role, even if the facial features are invisible.

Although it is important to stress the shapes of eyes and mouth and individualized design of facial features, hairstyles must show distinctive characteristics. It is crucial to identify the roles through silhouettes.

### ● Fail to identify the figures at first glance



Silhouette



It is hard to distinguish them, as they are of the same appearances.



# Figures of different hairstyles



Exaggerated transformation styles.



Transformation of realism styles.



We originally plan to draw it cartoon-like, but end with a more refined work.



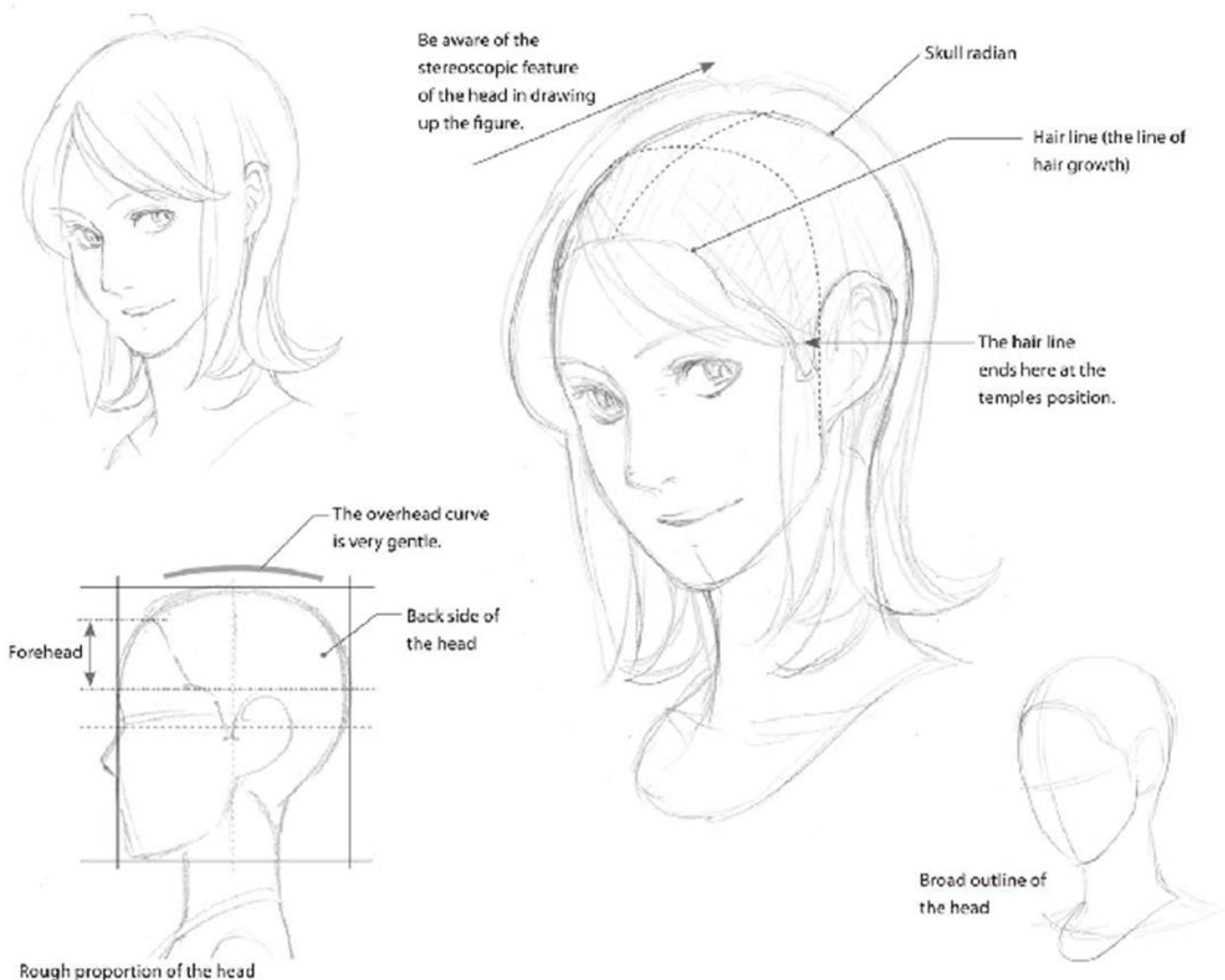
There are as many hairstyles as the number of figures. They may be realistic or exaggerated, and modified into diversified modes.

Let's deliver the personalities of the figures with different hairstyles, and complete the missions in the stories.

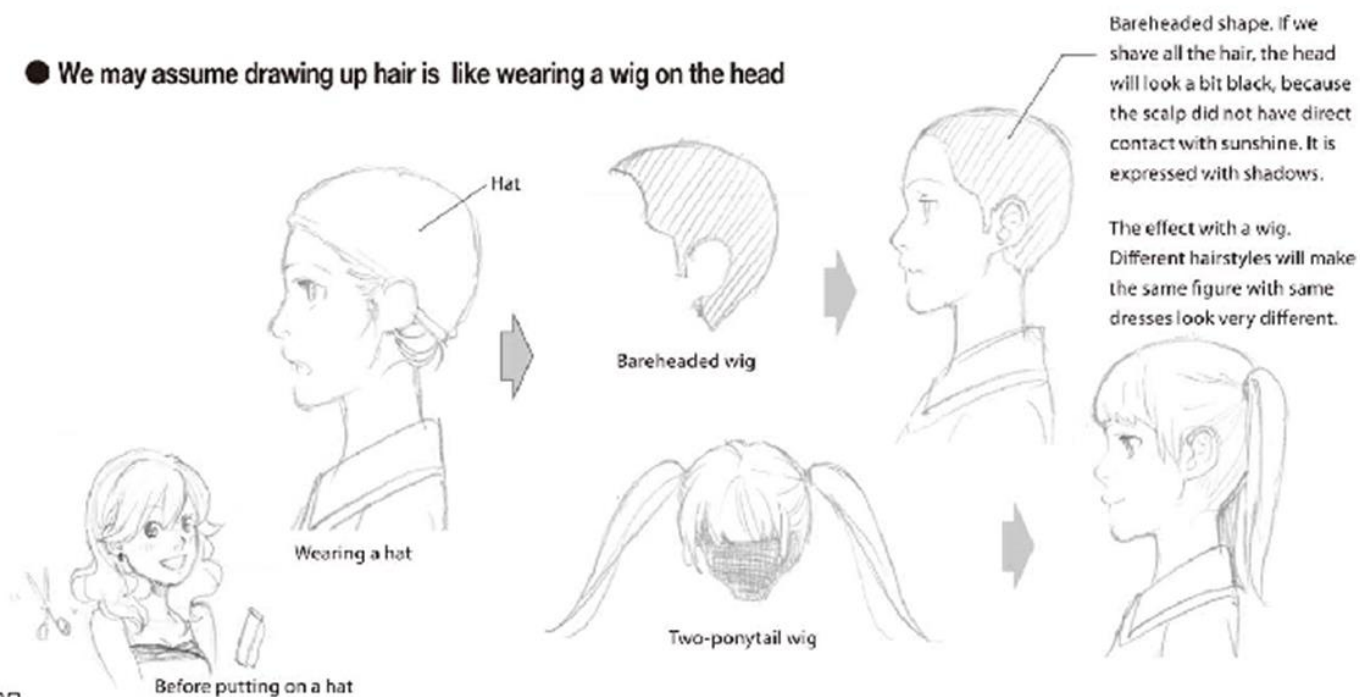


## Hair must be drawn upon a bare head

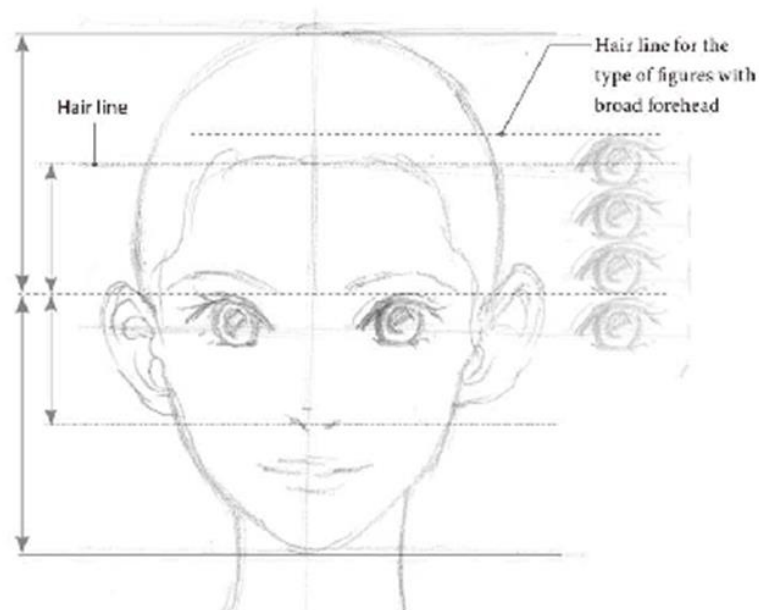
Before drawing up hair, decide the shape of head and position of the hair line first.



### ● We may assume drawing up hair is like wearing a wig on the head



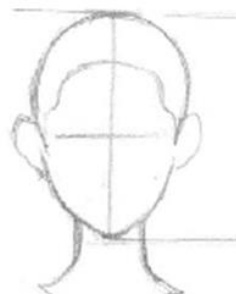
# Hair line



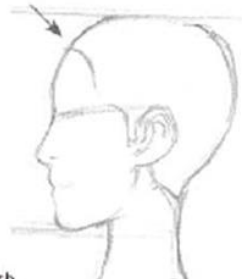
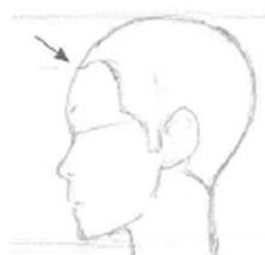
## Typical hair line shape



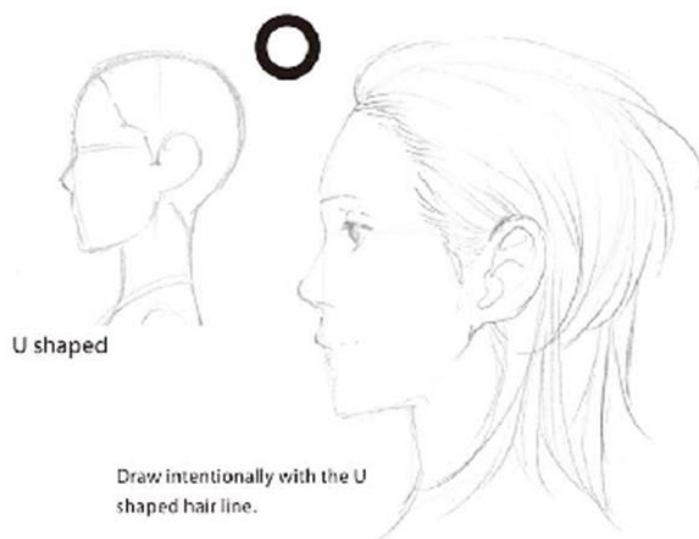
M shaped



U shaped

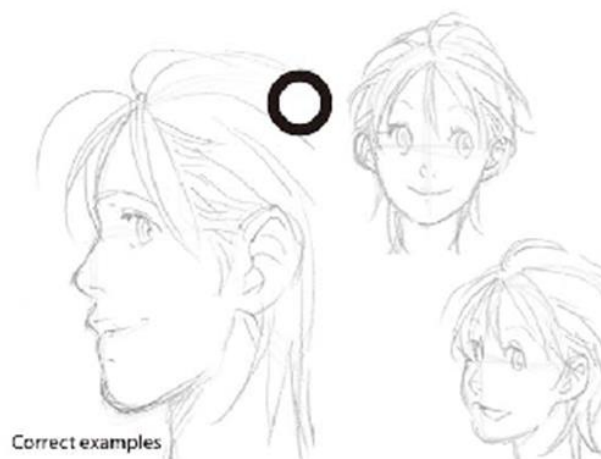
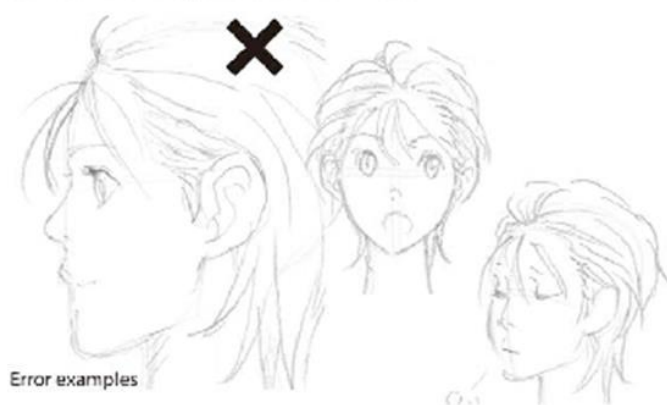


Changes in forehead width



This is a result of drawing the forehead based on sensations, ignoring the hair line. It looks like the wig is misplaced.

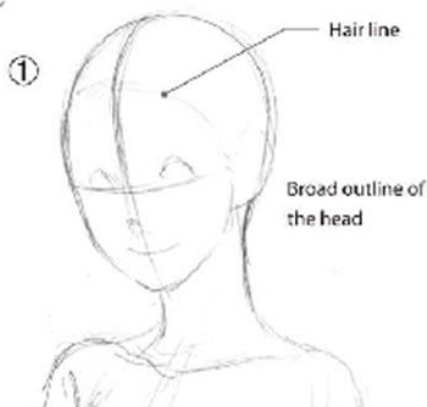
## ● Hair will not grow in the forehead



## Steps to draw up hair



### Type of round contour



① Draw the broad outline, and make the head shape in particular accurate.

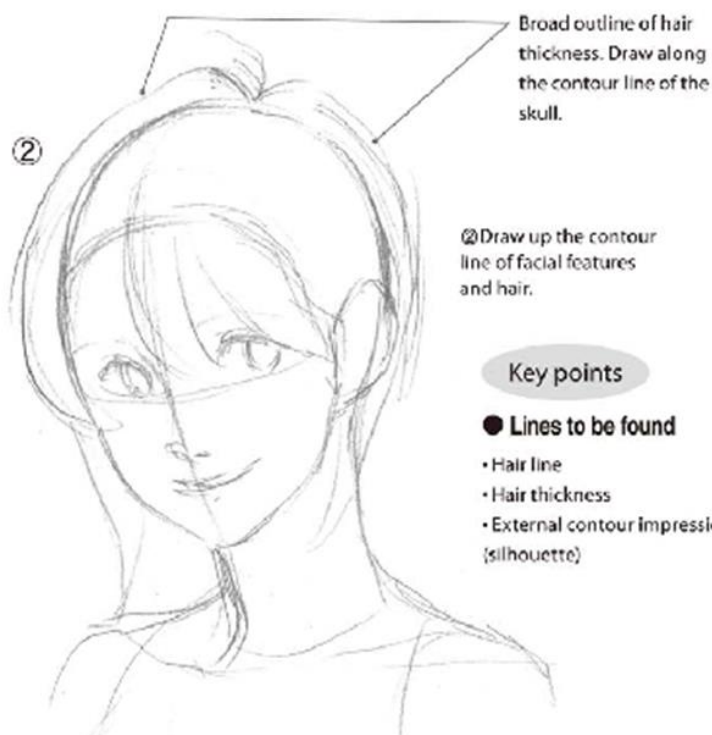
Start to draw hair shade with the hair line.



③ Draw the fringe in the front.



Draw hairstyle by first fixing the thickness of the hair.



### Key points

#### ● Lines to be found

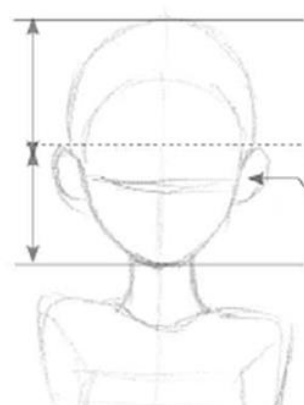
- Hair line
- Hair thickness
- External contour impression (silhouette)





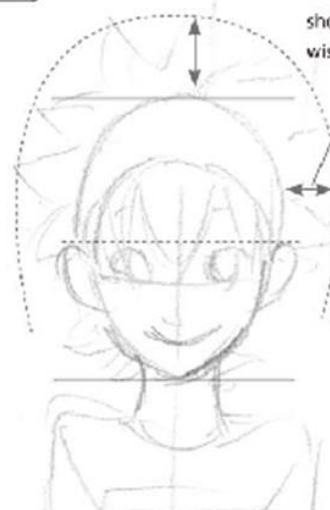


## Outline of wild curl-up hairstyle



① Draw the broad outline.

Put the position of eyes a bit lower to make the figure lovelier.



② Fix the thickness of hair according to the radius measure of the head.

Do not extend laterally too much. Keep it a bit shorter than the length wise direction.

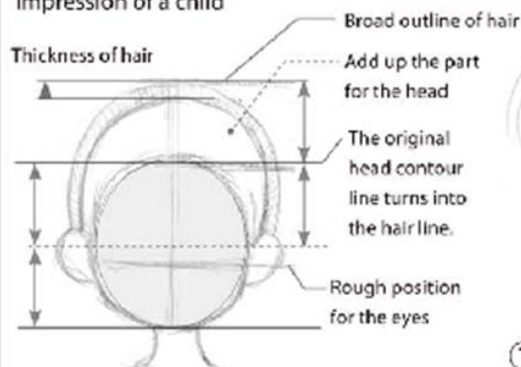


③ Impression of wild curl-up. Draw it up with curved lines.

## Application: Q-version impression of big-head figure

Draw the hair a bit thicker to make the head look larger.

### Impression of a child



Draw the head 1.5 times larger and then draw the hair outline.

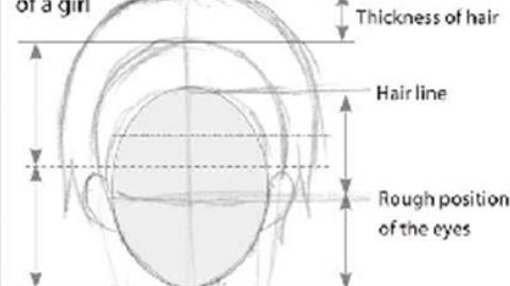


①

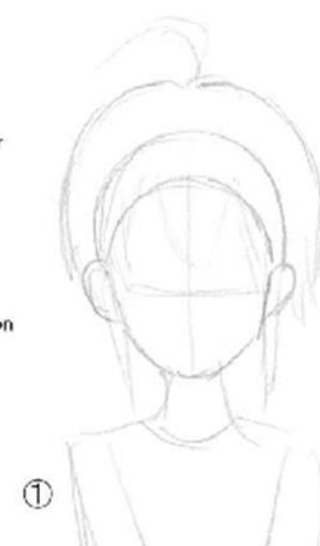


②

### Impression of a girl



Raise the hair line and increase the thickness of hair.



①



②

# Seven elements to fix hairstyle

Making diversified hairstyles through all combinations.

## 1 Hair quantity



Small hair quantity

Reveal the curve lines at the back of head



Medium hair quantity

Round curves

Actual head shape



Multiple hair quantity

Many hairs

## 2 Length



Hair length

Length to cover chest and hang to the waist.



Medium and long hair

Length to cover the neck (droop to shoulders).



Short hair

Hair not yet reaching shoulder and expose the neck.



Baby-style hair  
Short hair to cover ears.

## 3 Hair quality

Straight hair  
Straight long hair



Wave style  
hair



Pin curl



In a hair salon, hair is separated into hard hair, soft hair, dry hair and oily hair.

#### 4 Hair color



White - dark brown In the cartoon sector, particularly when the works are not elucidated, the hair may be deemed as "ordinary" - black.



Black or red hair



Blonde, silver, blue and yellow hair

#### 5 Comb and braid the hair



Pony tail



Two pony tails

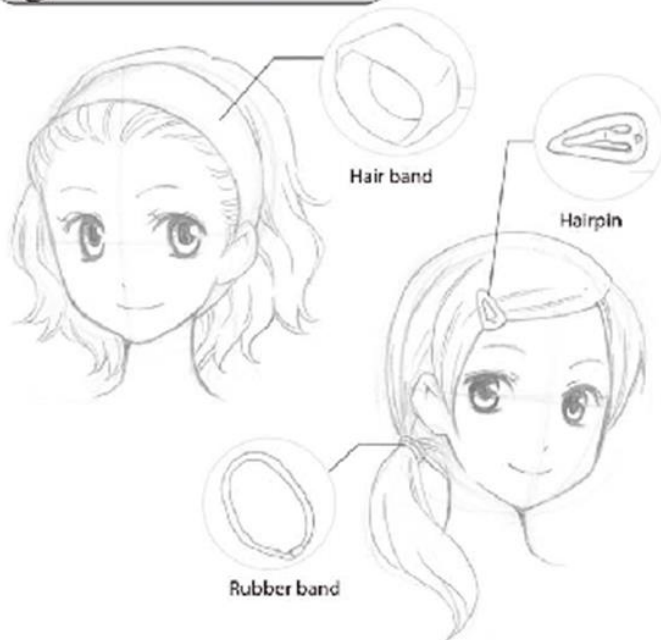


Coiled hair with three braids



Braided hair

#### 6 Wear hair ornaments



Hair band

Hairpin

Rubber band

#### 7 Symmetry and asymmetry

(Same face type and facial features, but with different hairstyles)



Symmetry



Asymmetry

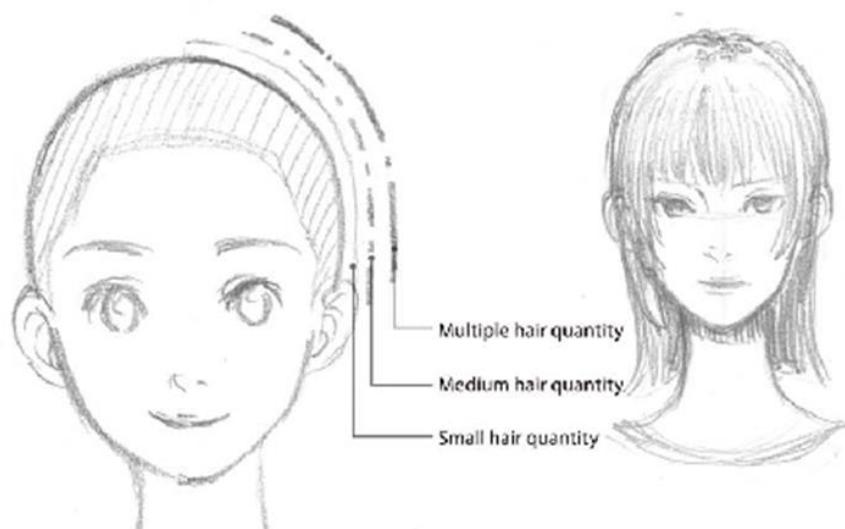


# 1 Hair quantity

Hair quantity refers to the amount and thickness of hair.

## ● Type with small hair quantity

One distinct feature of smaller hair quantity is that it is easy to expose the original shape of the head. Sincere hair is closely pressed on scalp, ears are easily revealed.



Fundamental benchmark of hair quantity



## ● Type of medium hair quantity

Hairstyle that may expose or hide ears.



## ● Type of multiple hair quantity

The head will look large if it has multiple hair quantity.



It is not easy to balance short hair in multiple quantity. Remember to balance the left and right range in drawing.







### ● Small hair quantity

- Small total hair quantity
- Thin hairline
- Softly stick to the scalp (will not puff)

Draw with thin lines to reveal the impression of straight hair.



Display the round curve at the back side of the head.

The hair will flow inward along the neck contour (without a sense of being propped up or puffed up).

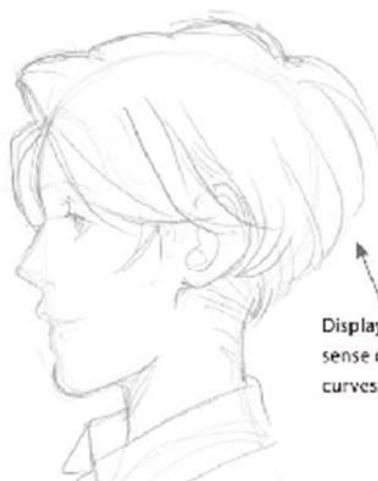


### ● Medium hair quantity

- The hair looks a bit hard in quality. It will do by simply create some fluffy impression and degree of hardness.

It is all right with straight hair and bit wave hair. It may be expressed with ease curves.

The hair will be fluffy, with tenacious hair root. It will be easier to express with such a feeling.



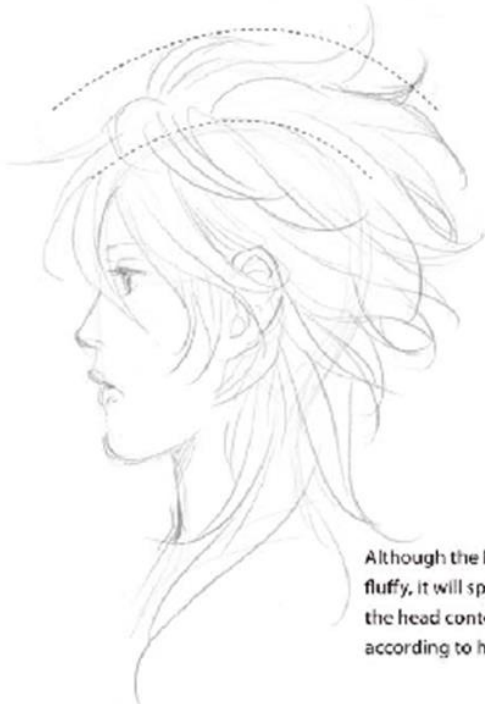
Display the fluffy sense of hair with curves.



### ● Multiple hair quantity

- Large amount of hair
- The hair becomes warped upward and unfit because of hard hair quality. Many hairlines look warped up.
- The hair is drawn in separate lines, no matter if it is thick or thin.

The lines may be thick and thin, and adjustable in the course of drawing.

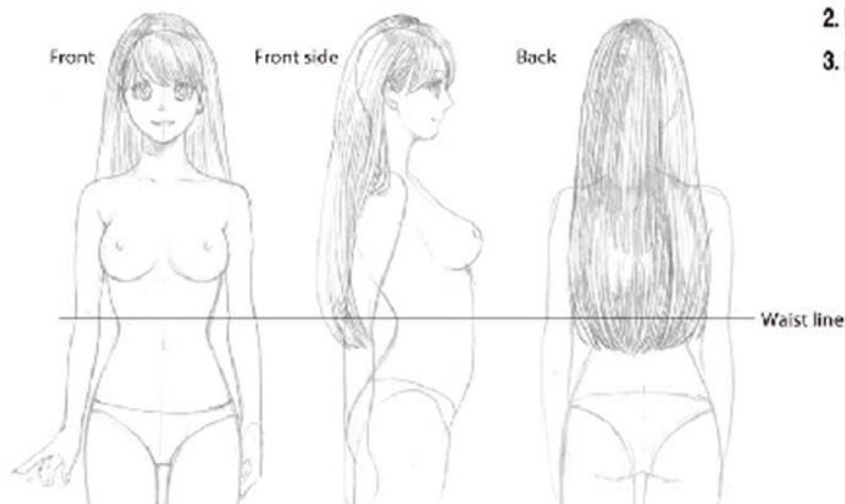


Although the hair looks fluffy, it will spread along the head contour line according to head form.

## 2 Length

Draw up the hair with fixed length

### ● Long hair



#### Key points

1. Fix length
2. Fix hair quantity
3. Draw up views for the front, front side and back



In addition to hair quantity, we must determine relations of hair and ears, and the form of spreading hair.

#### Practice to grasp hair trends



When drawing hair, fix the position of hair vortex first, and proceed to draw curves along the curved surface of head.



#### Typical black long hair



The hair is spread irregularly near the end.



The hair gathers near the end.



The hair is bundled near the end.

## Features of hair of three lengths (distinguish key points for drawing)

### ● Long hair



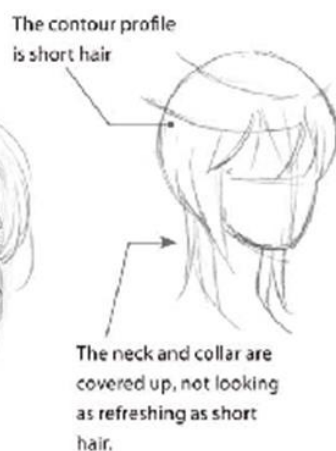
Long hair is usually drawn with less quantity  
Long hair will normally droop and fit, because of the weight.  
Hair longer than shoulders is seen as long hair.

### ● Short hair



Short hair leaves the neck refreshing  
No matter the quantity, short hair will clearly expose the neck (refreshing the neck).

### ● Medium and long hair



Medium and long hair will cover up the neck  
This is a hairstyle between short hair and long hair. It is actually short hair extended to the collar.



### 3 Hair quality

~ Straight hair and wavy hair ~

Straight hair is drawn with relatively straight curves (instead of circles), and big wavy hair is drawn with circling curves.

#### ● Straight hair



#### ● Wavy hair



Inward curly hair



Outward curly hair



Inward curly hair



Outward curly hair

#### Grasp the differences of lines

##### ● Straight hair applies C shape lines

Straight hair may have certain curves.  
Straight hair will not change curve directions midway. Just imagine the C shape and draw the hair.

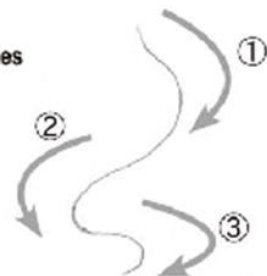
Curves extend to one direction.



Style of the end of straight hair. Draw the hair simply with curves.

##### ● Wavy hair applies S shape lines

Draw wavy lines exactly as the literal meaning. The curves will change direction midway. Just imagine the S shape and draw the hair.



Join the three curves to generate wavy hairlines.



Style at the end of wavy hair. They are a combination of crooked curves, properly supported with straight hair lines.





Long wavy hair



Short wavy hair



Straight hair + wavy hair

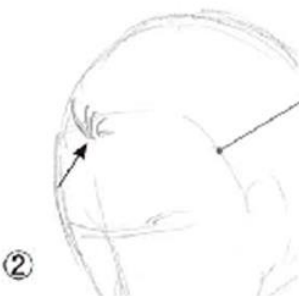
# ● Steps to draw wavy hair



Complete



① Fix the general direction of the hairline.



② Decide where hair will part in the forehead.

Take the hair line as benchmark.



Draw the hair in strands like ribbons.



③ Start to draw at where the hair parts. This is a strand of hair to be emphasized.



④ Thin broken hair may be drawn with curves that represent straight hair.

Hairlines will grow downward following the head contour from the hair vortex at the top of head.

※Note: Straight hair does not necessarily mean thick and tough. Naturally, wavy hair will not always be soft and fine. The hair will be designed according to hairstyle in thickness and softness.

## 4 Hair color

### Black hair

To manifest hair color, we may spread the color flat or in line with the direction of hairline, taking into account the light source directions.



Pencil outline before coloring.



Without luster.



Decide the impression of hair according to designed impression for the figure. Sometimes, hair without luster adapts to settings better.



Draw up luster according to hairline direction.



Revelation of luster (highlight). Display the highlight part in a graphical approach according to head curves.



Revelation of luster. Reveal stereoscopic impression with head curves.

### ● Display luster of hairlines

Leave white space according to head curves and hairline directions.



## Blonde hair and silver hair

Blonde hair and silver hair may be expressed with brush strokes, without greater distinctions.



## ● Steps of drawing



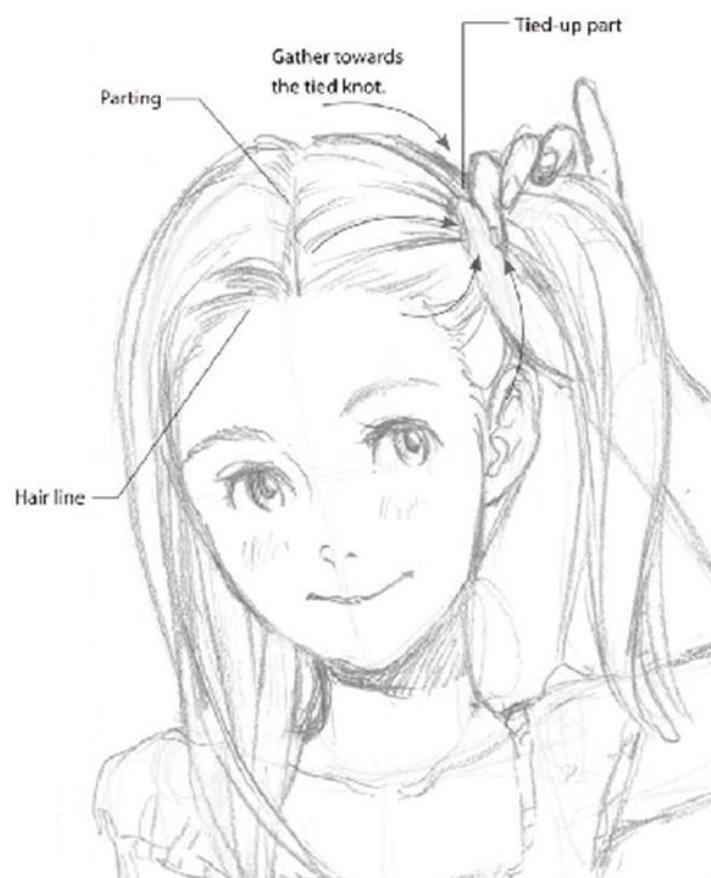
Make fewer brush strokes at the protruding portions than sagging portions. Thus, they will form distinct contrasts and display hair quantity.





## 5 Comb and braid the hair

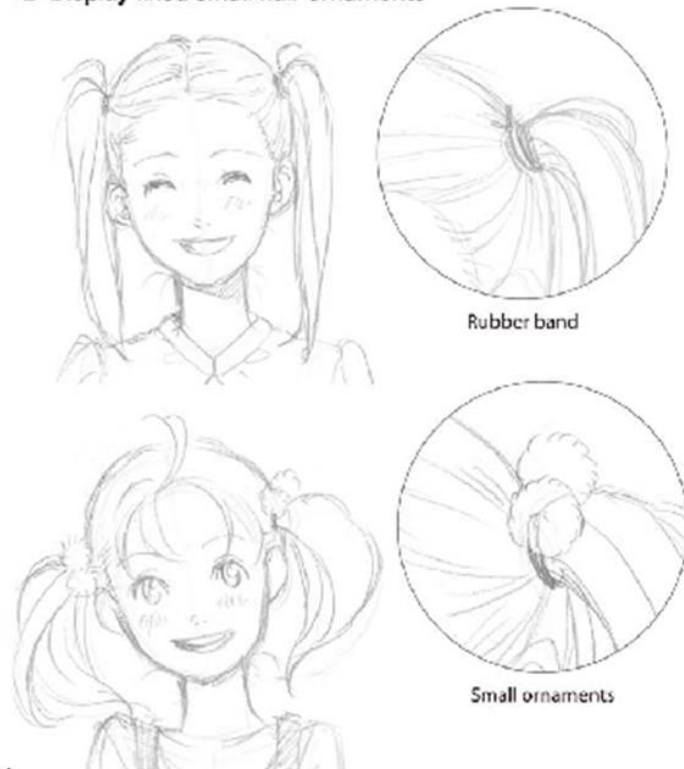
Gather the hairlines towards the tied knot.



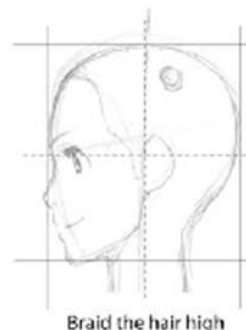
Key points

- ① Parting line
- ② Hair line
- ③ Tied knot

### ● Display fixed small hair ornaments



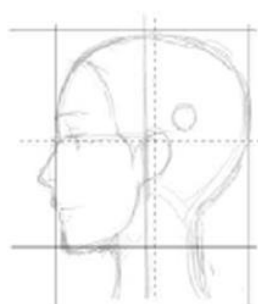
### ● Benchmark position to braid the hair



Braid the hair high



Benchmark position to braid the hair.

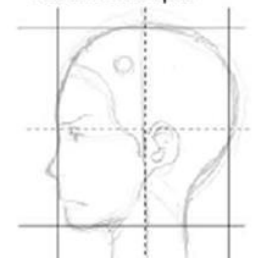


Middle position



Braid the hair at the middle of one side.

### Failure example



Positioned too close the front



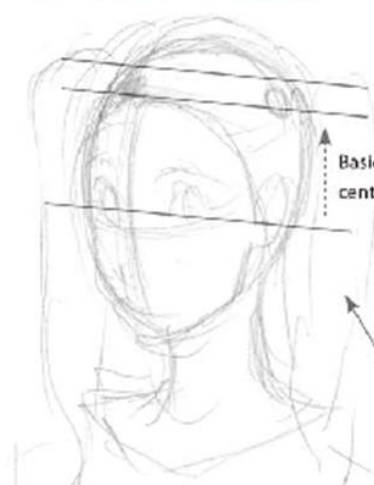
Ill balanced



## Two pigtails

One pigtail at each side of the head. Keep them at same height.

### ● Key points for drawing



Basically parallel  
centre line of the side

Draw up the rough  
outline according  
to imaginations.

In drawing the rough outline, draw a  
circle at the tied knot as a mark.



Gather the  
hairline towards  
the tied knot.

Draw up curves  
along the head  
shape.



Reference: failure cases from  
left-right asymmetry.



Type with coarse hairlines



Type with pliable hairlines

Parting line of hair at  
the back of head. The  
hair is separated in  
the middle.



The hairline trend curves  
will differ according to the  
head curves. The hairline  
trend display the contour  
of head curves.



● Display hair parting at the back of head



Direct parting type



Sawtooth type



Natural parting type



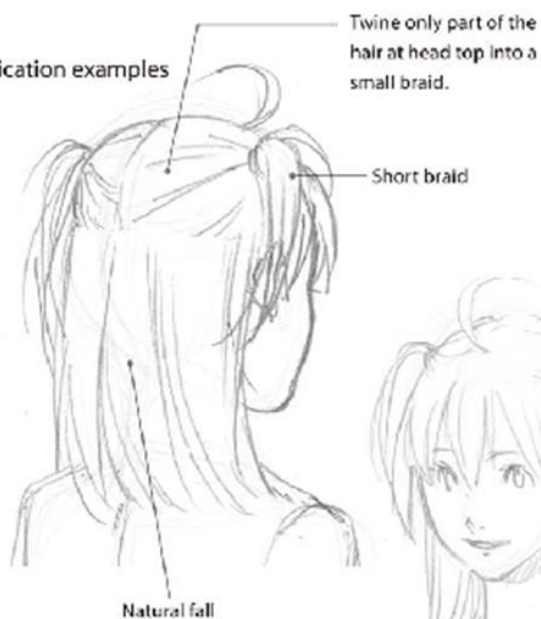
Side appearance of back of head with saw-tooth parting.



Saw-tooth parting does not coincide with centre line of head.



Application examples



Natural fall

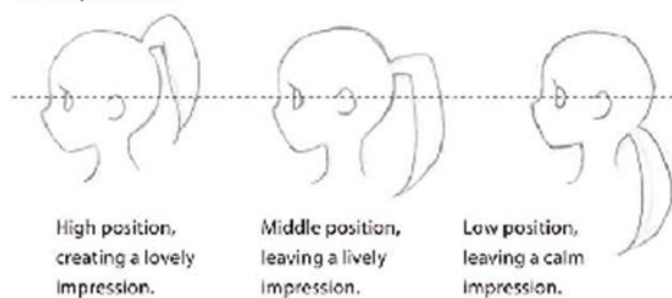


Seen from the front

## Ponytail

Style of braids at the back side of head.

### ● All positions



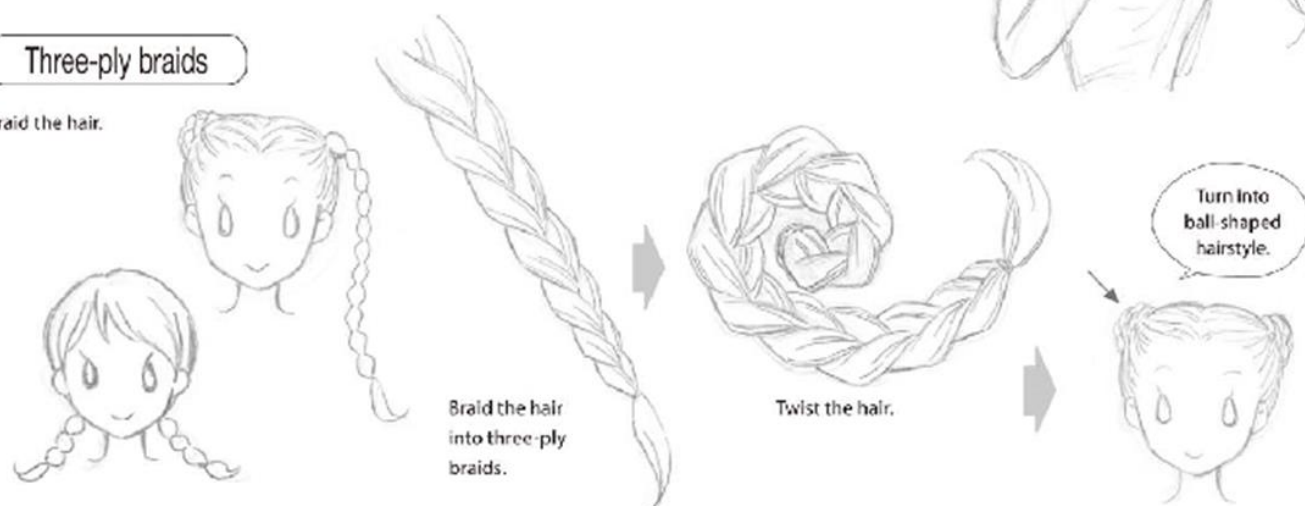
### ● Steps to braid ponytail



Just as its name implies, ponytail is a braid style looking like pony tails.

## Three-ply braids

Braid the hair.





## 6 Wear hair ornaments

First, think about where to gather and bind the hairlines. Then, draw up hair trends and add up hair ornaments.

### ● Satin ribbon



First, draw up the ponytail outline. Then, add the satin ribbon for ornament.



It is unnecessary to display the hairline trends of Q-version figures. Just draw up the satin ribbon.



Draw up only the outline of satin ribbons.

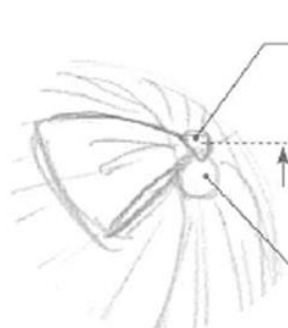
### Steps to draw up ponytail with satin ribbon



① Fix the position to gather the hairline.



② Draw up hairline trends along the head curves.



Center of satin ribbon

#### Key points

③ The center of the satin ribbon is a bit higher than the center to gather the hair.

Center to gather the hair

### Ribbon ornaments



Some satin ribbons are made in advance and clamped with hooks.



Satin ribbon knotted and then tied.



Hairpin style, fastened by clamping the hair.



④ Completed.



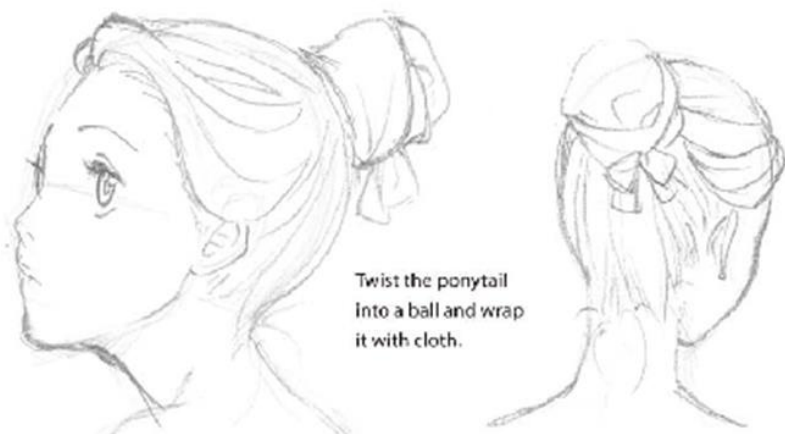
● Bind hair with ribbon



● Wrap hair with cloth

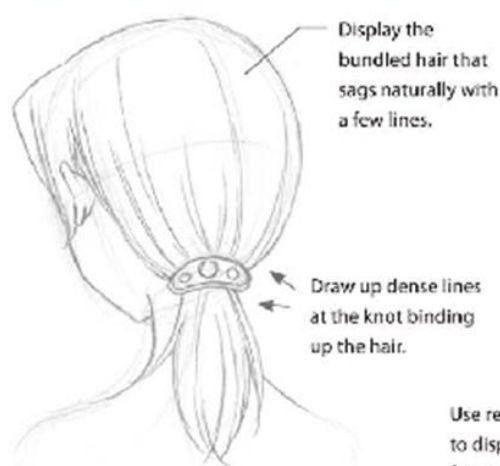


Bind hair to one side.



Twist the ponytail  
into a ball and wrap  
it with cloth.

● Apply small ornaments to fasten the hair

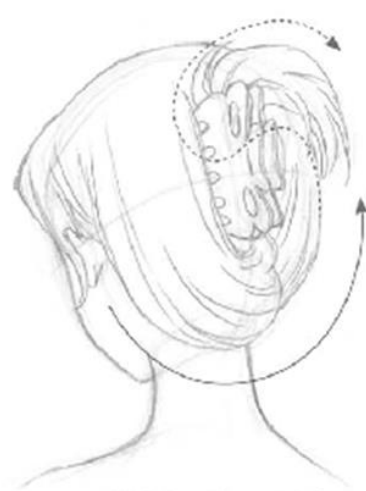


Display the  
bundled hair that  
sags naturally with  
a few lines.

Draw up dense lines  
at the knot binding  
up the hair.



Use relatively more lines  
to display the hair tightly  
fastened at the back of head.



Think about the trends of  
hairlines before drawing  
up twisted hair.

Ribbons are small ornaments applied to fasten the hair.  
Add some lovely and fashionable elements in the course of  
satisfying the demand of fastening the hair.

● **Types of hairpins** Draw in line with head curves.



● **Types of hair bands** Ornaments only, without the function to fasten the hair.



Draw in line with  
the gentle curves  
of the forehead.

## Wrap up and cover the head

### ● Head scarf



Big handkerchief impression, and tie a knot at the back side of head.



Fold a handkerchief into strip, wrap up the head, and tie a knot at the chin.



Wrap up the head with triangular scarf, and tie a knot at the back of neck.



Wrap up the head with a triangular scarf, and tie a knot under the nose.

### ● Cloth band

Wrap up the head with width cloth band.



Head scarf type: break the angle of rolled-up cloth and fasten it.



Pattern tightened in the front.



Pattern folded and wrapped at one side.



Pattern resembling triangular scarf to wrap up the back side of head with a long cloth.



### ● Nun type

Wrap the head with cloth and expose only the face.



### ● Ninja type

Wrap the head with cloth and expose only the eyes.



## 7 Symmetry and asymmetry

In designing figures, painters may be inclined to draw figures only of one type, because of personal preference and habits. If they want to draw up figures with a completely new outlook, they may approach them from symmetry and asymmetry angles.

### Left-right symmetry

There are four prototypes of left-right symmetry

#### ● Type 1: With hair shade in the front



The forehead is shaded to leave a gentle quiet impression. The hair shade may be drawn to cover up eyebrows. In this manner, it is hard to observe the figure's expression. Therefore, this technique is suitable to display mysterious figures.

#### ● Type 2: With hair combed in the front



Figures exposing the forehead leave a open and lively impression. This technique may be applied to display the type opposite to those with shaded forehead.

Transformation

Big transformation

#### ● Type 3: Central parting



The intermediate type between type 1 and type 2. Figures in this type are not attractive as those of type 2 with fully exposed forehead. But they also leave a lively impression.

#### ● Type 4: M-shape hair shade



Opposite to type 3, the figures expose the forehead faintly, leaving an impression beyond understanding and judgment. This technique may be applied to display mysterious figures with distinctive personalities.



They are clear at a glance even when put in boxes.



These hairstyles apply to big wavy hair.

## Asymmetry

Side parting head adopts asymmetrical hairstyle.

Big transformation



Cover up one eye, a typical hairstyle to create an air of mystery.

Transformation



It may display extroverts or figures of strong character.

Partly exposing forehead is fit for displaying the type of figures who are highly self aware, confident, and want to attract attention of others.

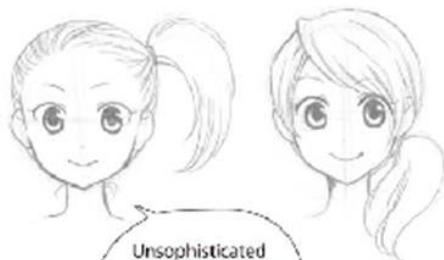


Exposing forehead a little like this will create an open, bright and aggressive impression.



Such short hair leaves a lively impression. But exposing a small portion of the forehead hints that the figure is uneasy at heart.

One sided ponytail is also a typical asymmetrical hairstyle.



Unsophisticated personality, somewhat sensitive.



Before cutting the hair



Does not look like the same person in different boxes.

● Type with hair shade

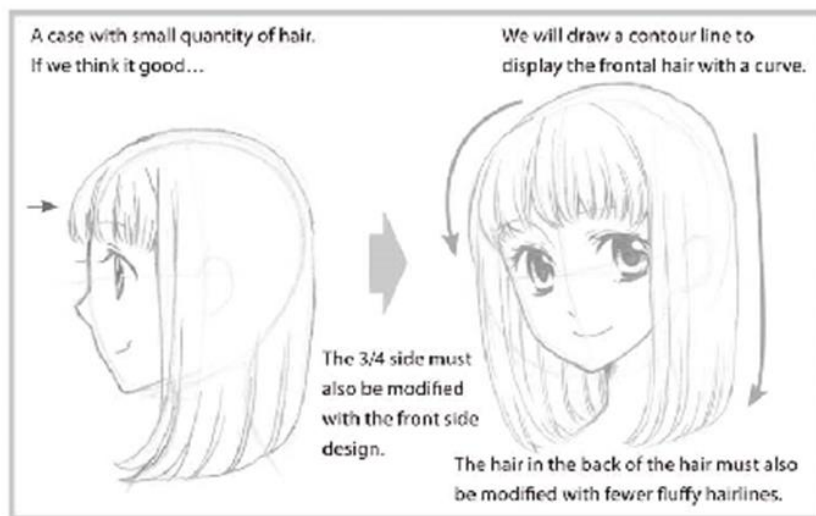


Key points

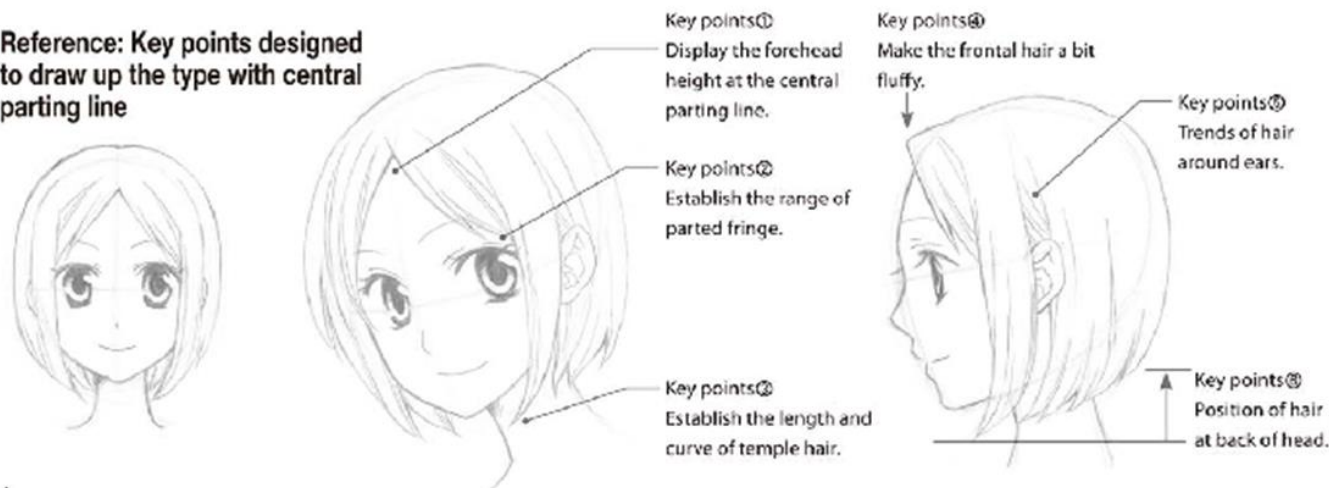
The figure design is to ensure the same face is drawn from every angle. It will leave a different impression when the hair quantity is different, even if the facial features remain the same. It is important to draw well the 3/4 side and front side of the figure.



The figure will look lovely, if the hair is fluffy in the front. If we handle it this way, we will modify it correspondingly in other angles.



Reference: Key points designed to draw up the type with central parting line





## Types of combed hair shade

Distinguish with hair quantity.



Change①  
Unobvious fluffy.



Change②  
The contour is flat and not fluffy.

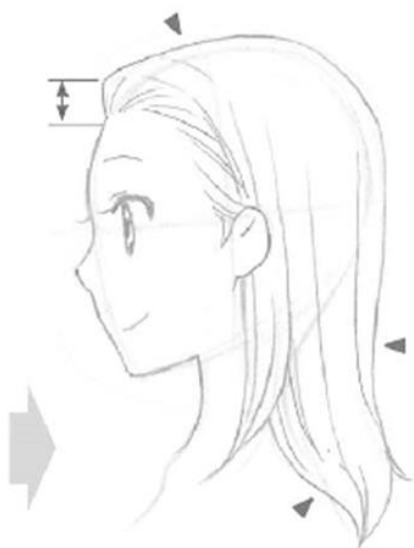
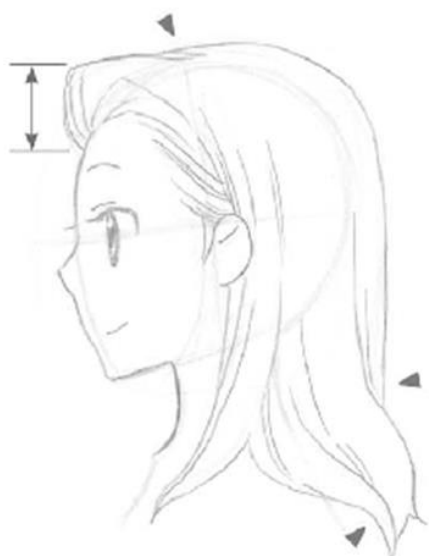
Change③  
There are fewer hairs around ears.

Change④  
With fewer hairs, the lines around the neck will be modified too.

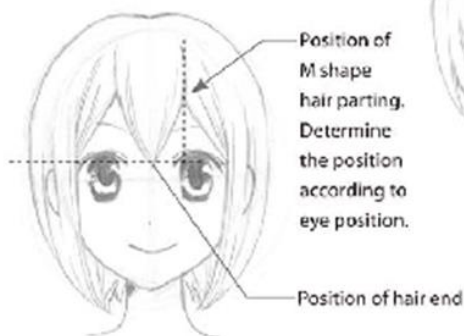
Change⑤  
The hairs around shoulders are reduced.

### Key points

● In addition to observing hair quantity changes, we must determine designs of related sides when drawing leading role figures.



## Reference: Key points to draw M shape hair



Position of M shape hair parting. Determine the position according to eye position.

Position of hair end



In drawing the 3/4 side, we will make the figure look more handsome if keeping the hair a bit longer at the center. In this way, draw up faces at different angles to determine the figure design.

The extent of forward fluffy hair shade.

Distance between temple hair and eyes.

Hair to the side of ear

Fix the length and position of all parts of hair according to settled chin position.

Chin  
Length of hair to the side of ear

Length of hair at the back of head

Details reflected only when drawing the side.

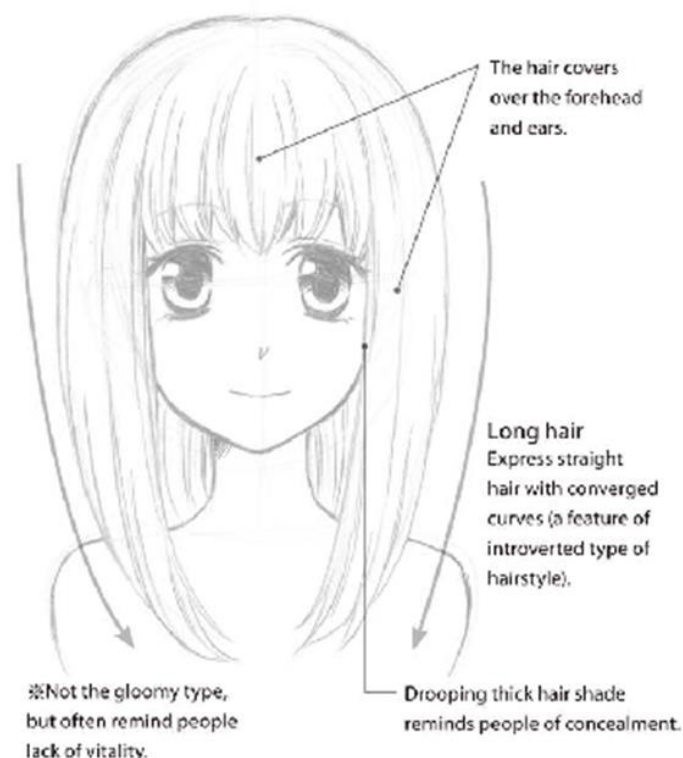
## Issues to consider when defining hairstyles

### Design hairstyles according to figure personalities

The appearances must be able to reflect the personalities of figures. Design hairstyles according to their first impressions to people (common understanding) to make the figures more easily recognized.

#### ● Introverted type figures, looking quiet and virtuous

Cultivate the image with covering, hiding and indistinct modes.



#### ● Extroverted type figures, looking healthy and passionate

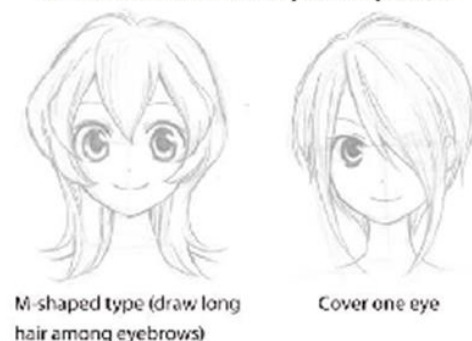
Cultivate the image with exposure, revelation and outgoing dynamics.



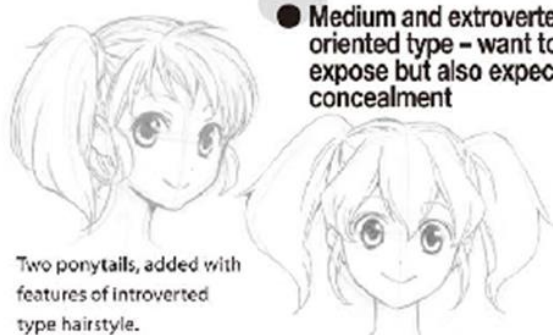
#### ● Middle type



#### ● Medium and introverted-oriented type – want to conceal but also expect exposure



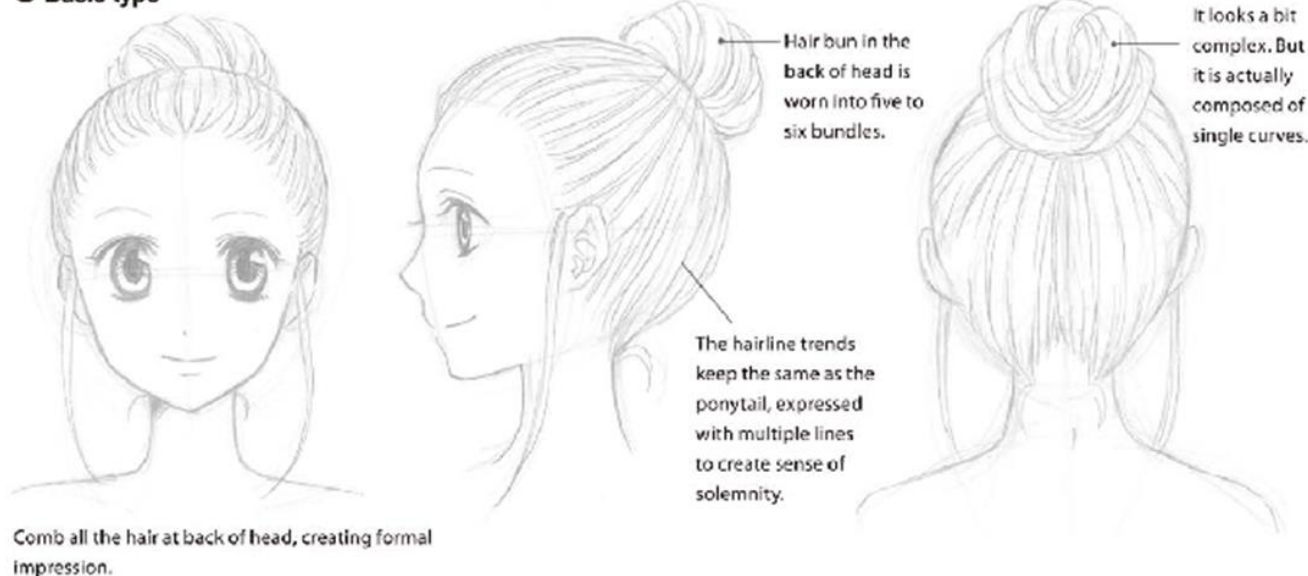
#### ● Medium and extroverted-oriented type – want to expose but also expect concealment



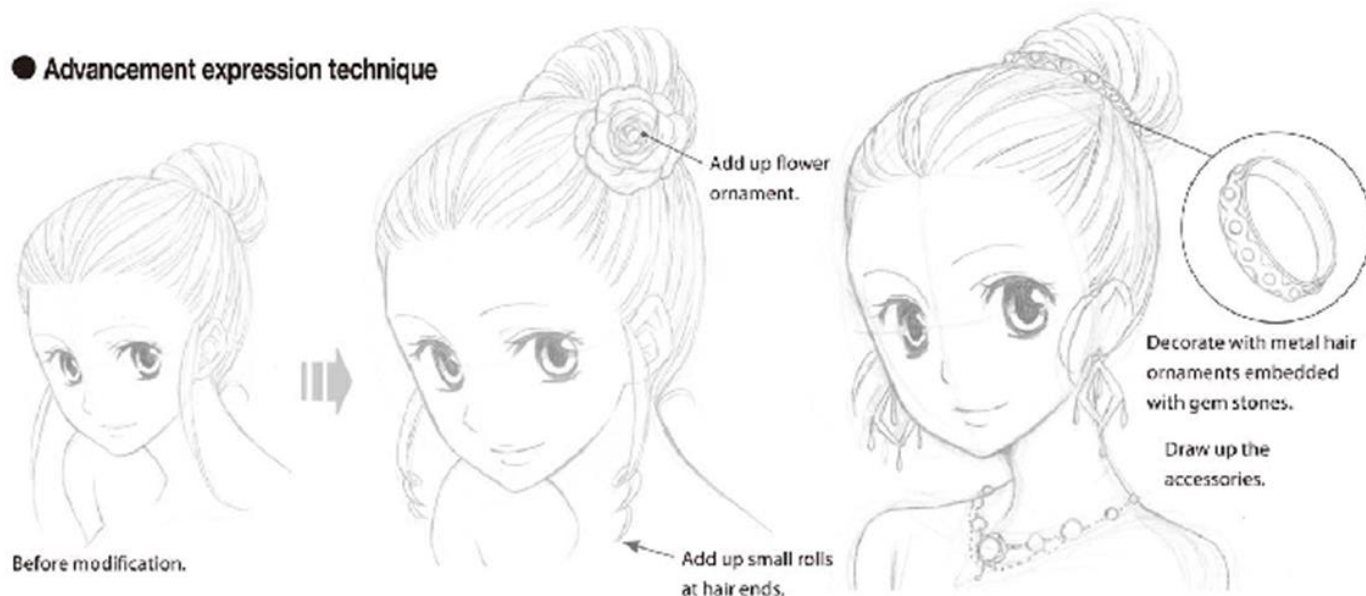
## Hairstyles matched with formal dresses

Different from everyday basics, formal dresses must be matched with formal hairstyles.

### ● Basic type



### ● Advancement expression technique



### ● Diverse changes





## Hairstyles appearing only in cartoons ~ Exhibit head design of figure ~

### ● Changes in hair forms

Hair turns into snake.



Wear a hat.



Hair becomes flame.



Draw up the head form earnestly as a basis in drafting the head.



Hair melts into water (liquid).

### ● Add other stuff upon the hair

Horns



Antenna



Rabbit ears



Cat ears



In drawing up horns and beast ears, remember to balance height in the left and right. Consult to the technique of drawing pigtails.

Chapter Three

# **Drawing Body**

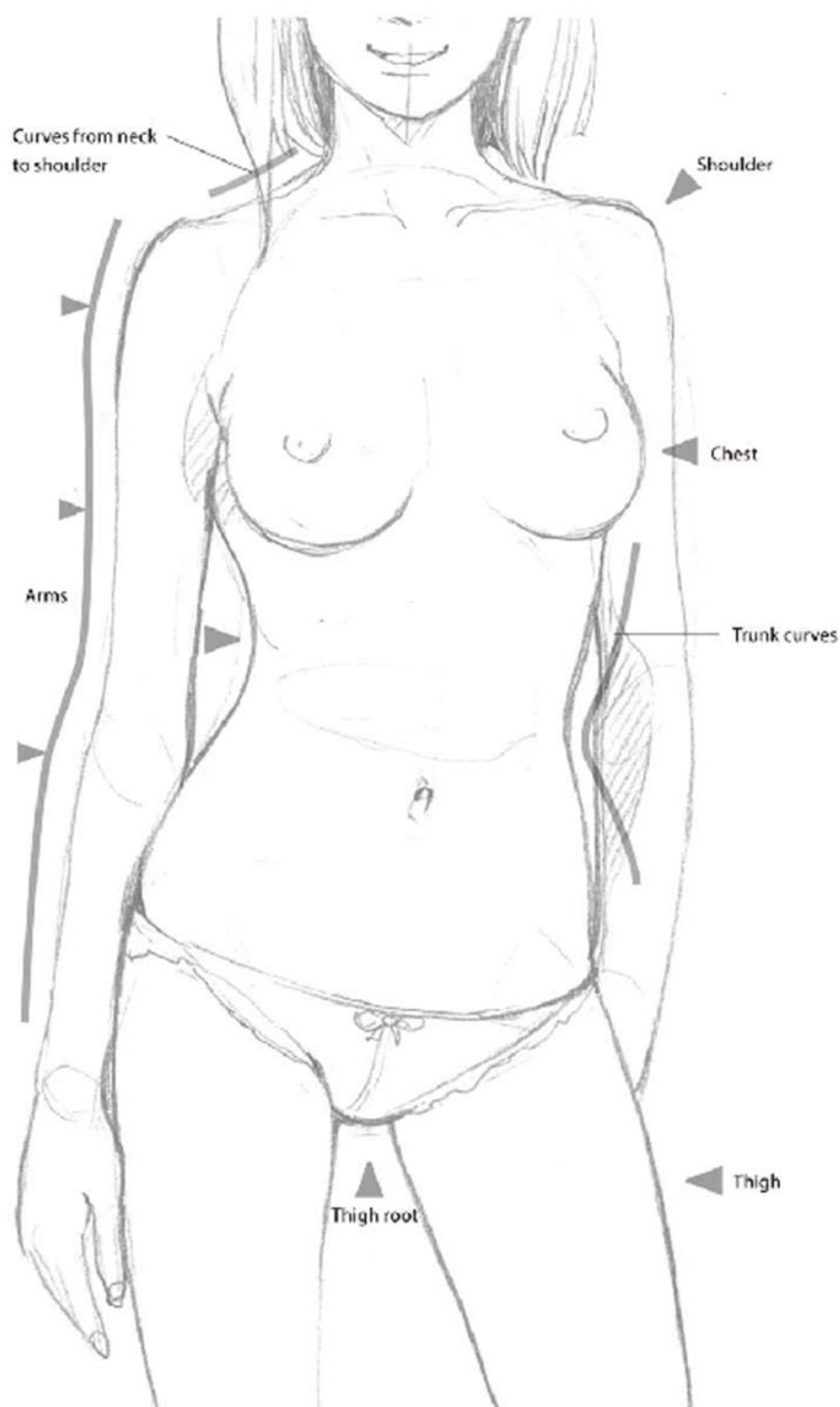
# Learn about body structure

Draw up attractive body

Exhibit female body charms with twists and curves.

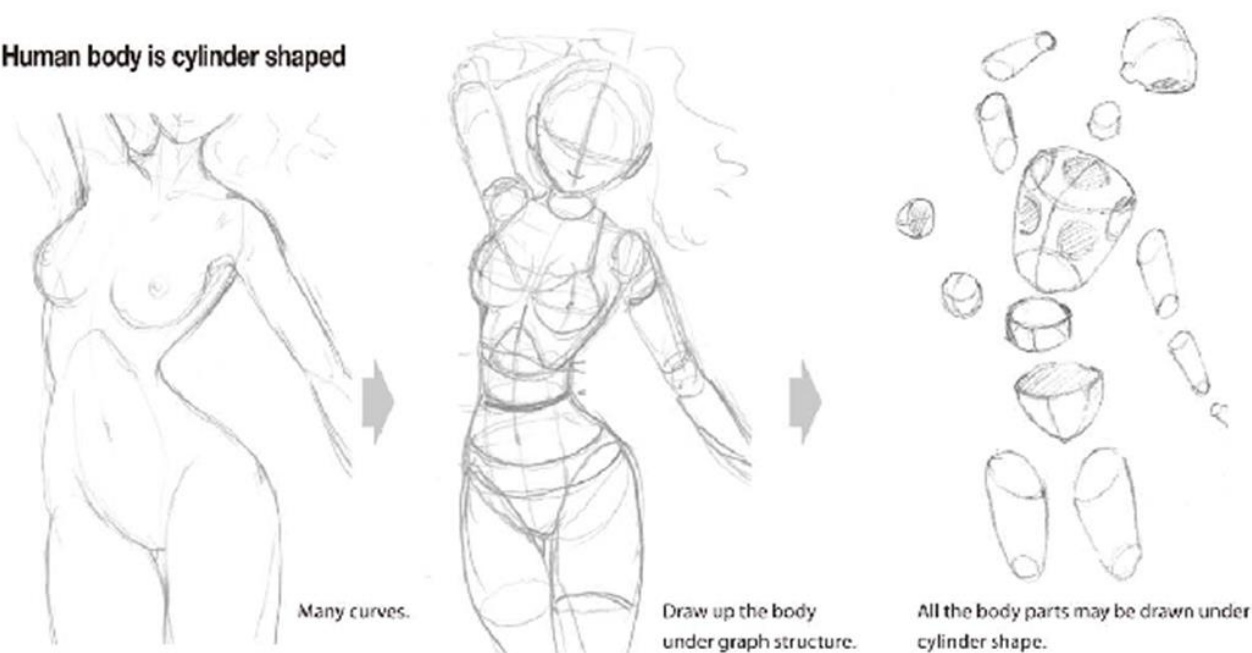
## Draw up curves

Human body is constituted of curves. So, contours are all curved lines.



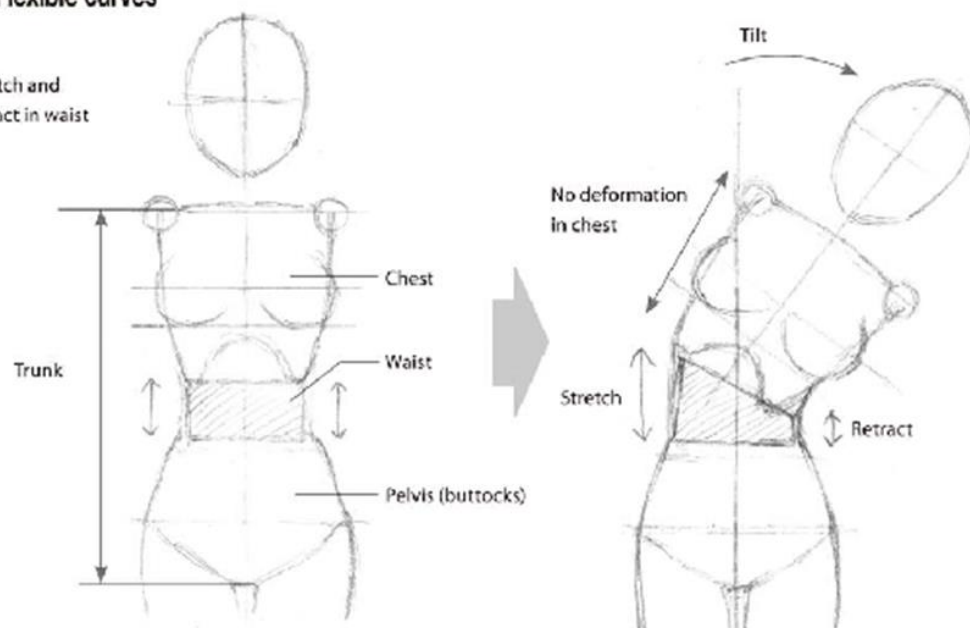


● Human body is cylinder shaped

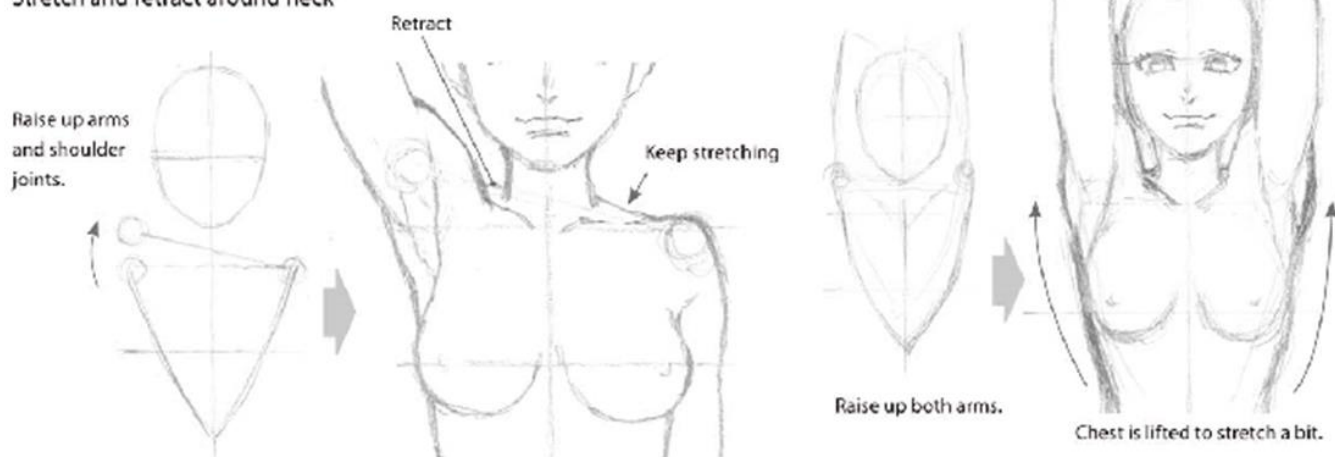


● Flexible curves

Stretch and retract in waist



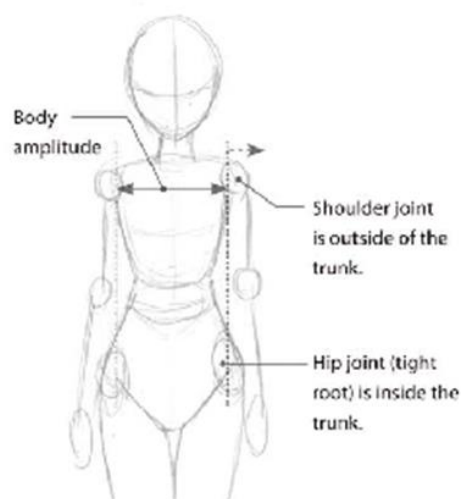
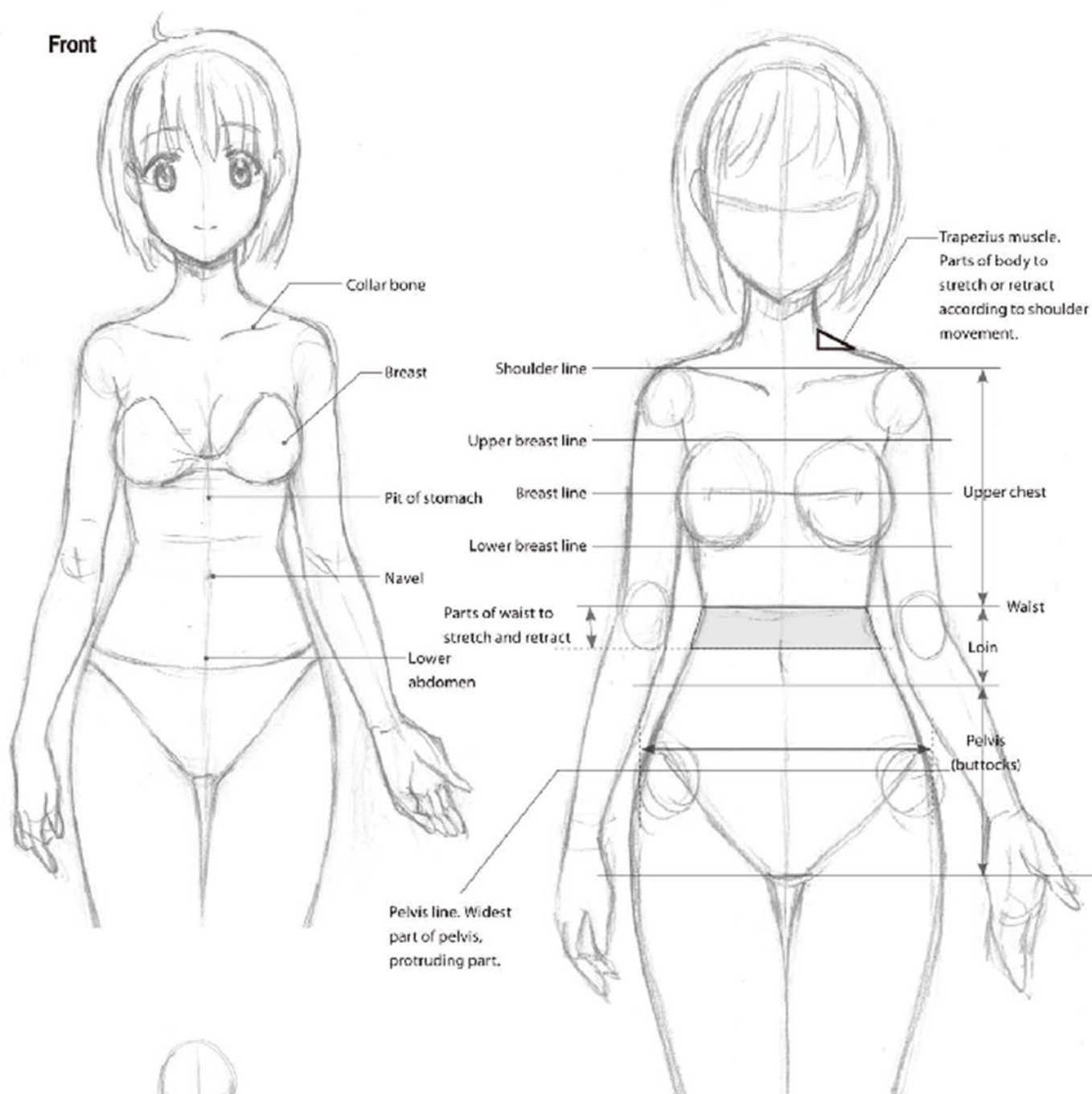
Stretch and retract around neck



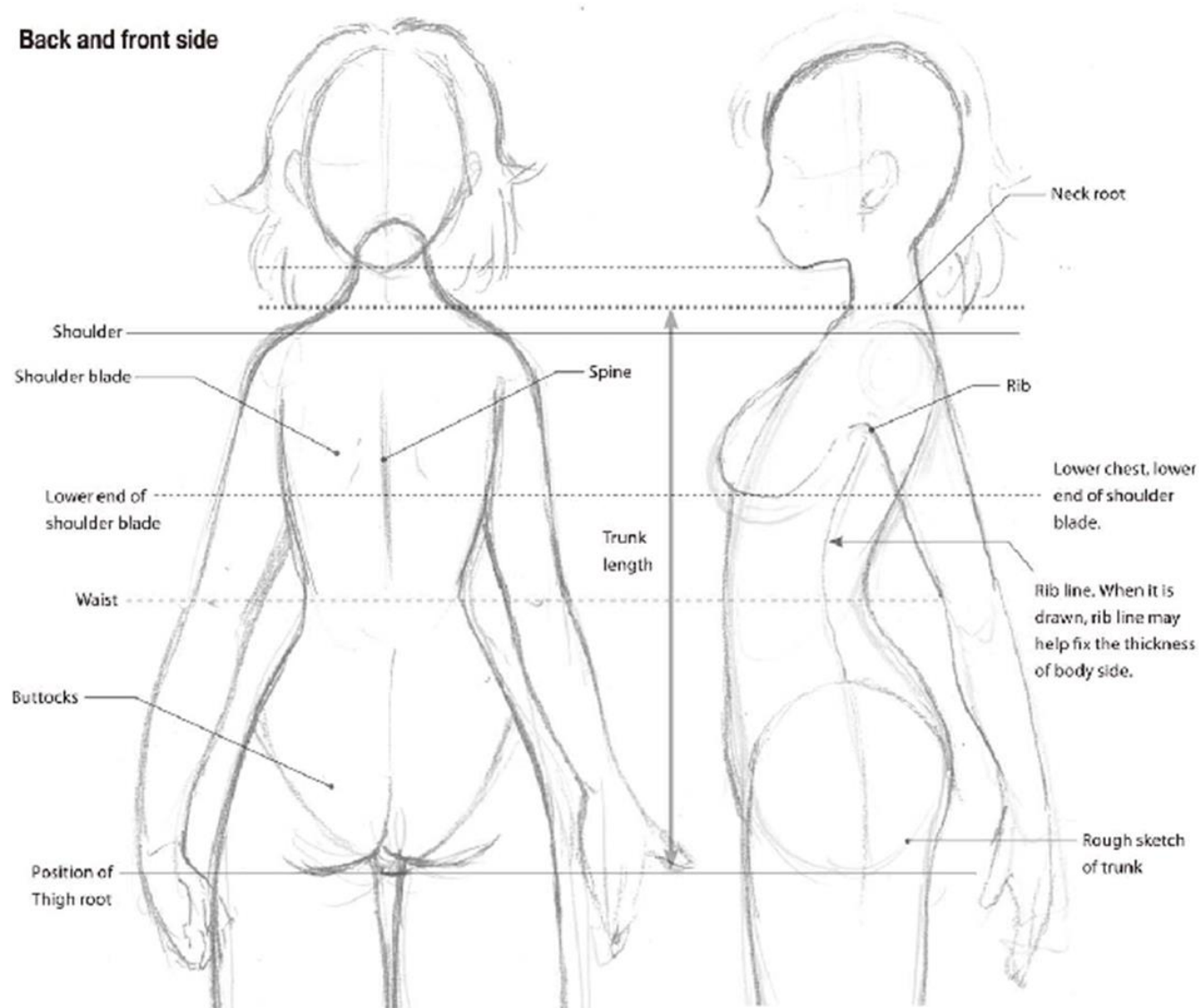
## Body structure and part names

To draw up the body well, it is essential to grasp the forms of body parts, and related names and dictions.

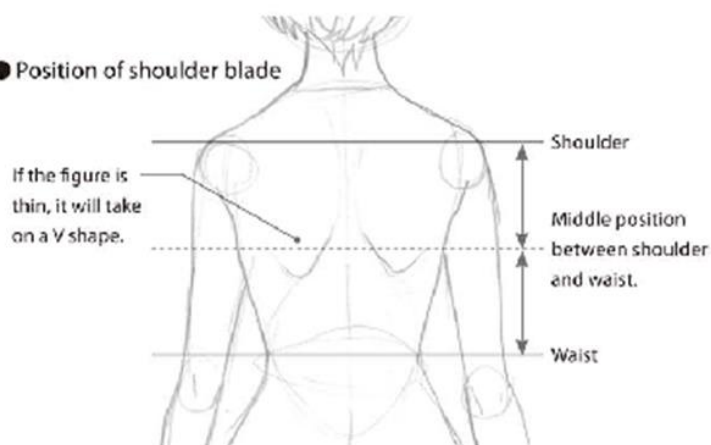
Front



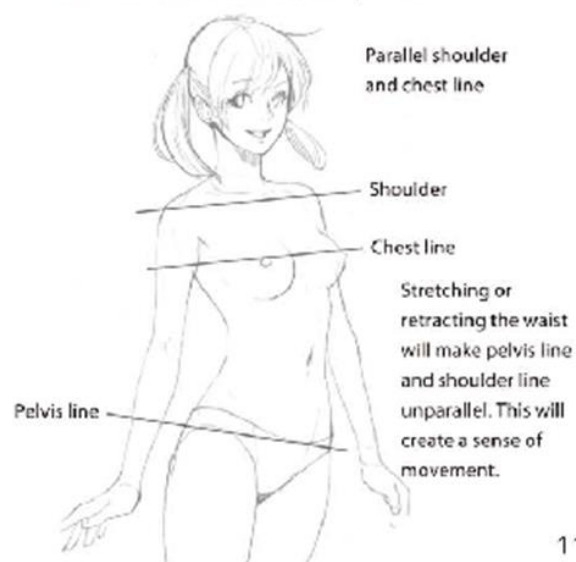
## Back and front side



### ● Position of shoulder blade



### ● Relations of shoulder-chest-pelvis line



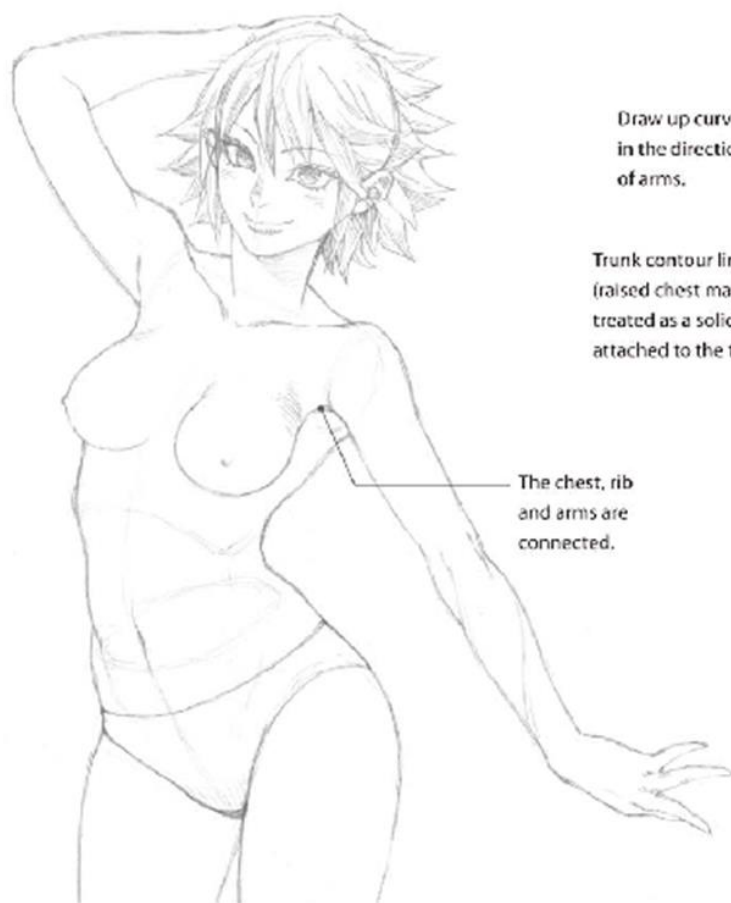


# Make the upper body and arms more charming

Human body (trunk), arms and hands are basically cylinder shaped. Joints connect these cylinders. They are expressed with circles.

## Upper body drawing technique

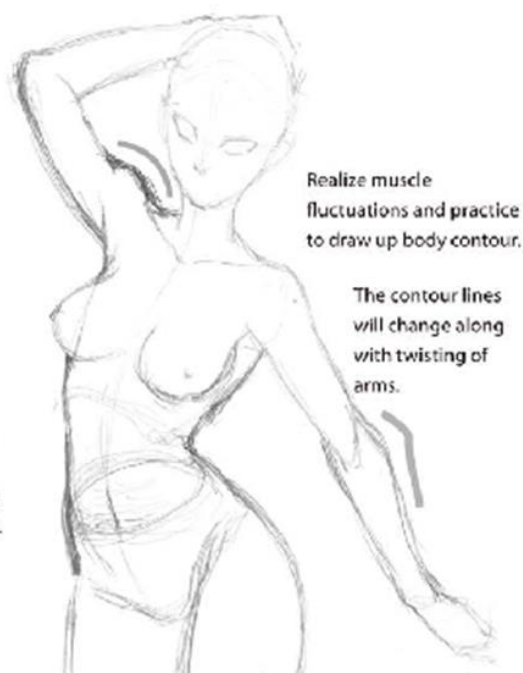
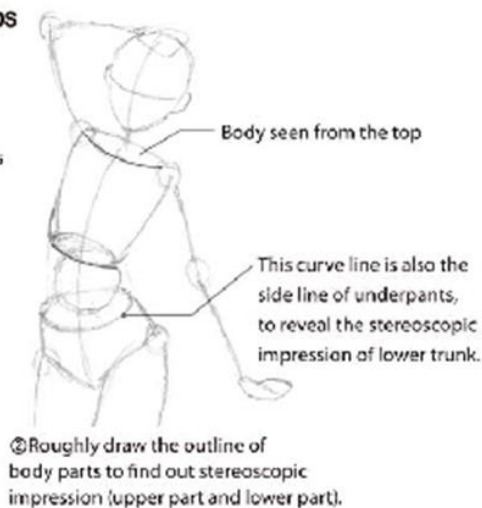
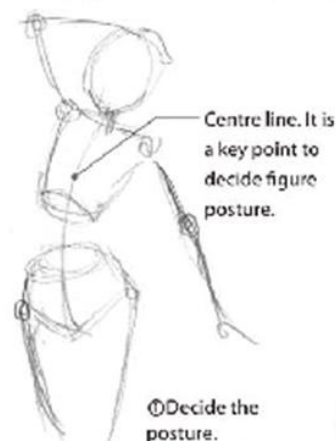
Draw up thickness of trunk. The neck, arms and legs and extension of trunk thickness.



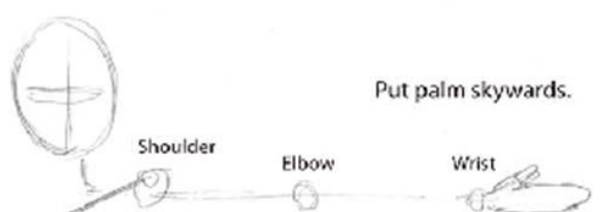
The chest, rib and arms are connected.



## ● Key points to drawing steps

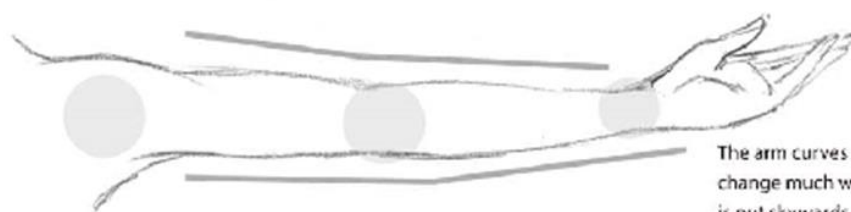


# Structure – connect neck, shoulder and arms

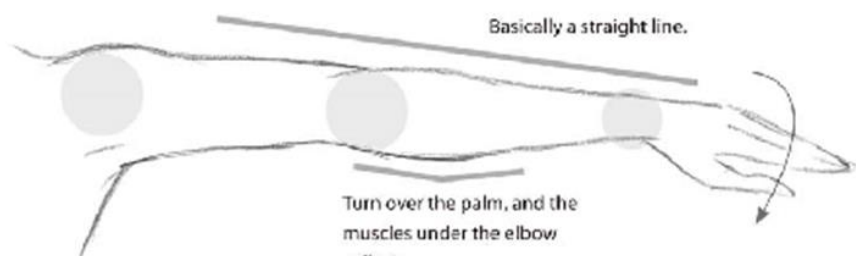


Put palm skywards.

Reverse the palm to have back of hand upwards.

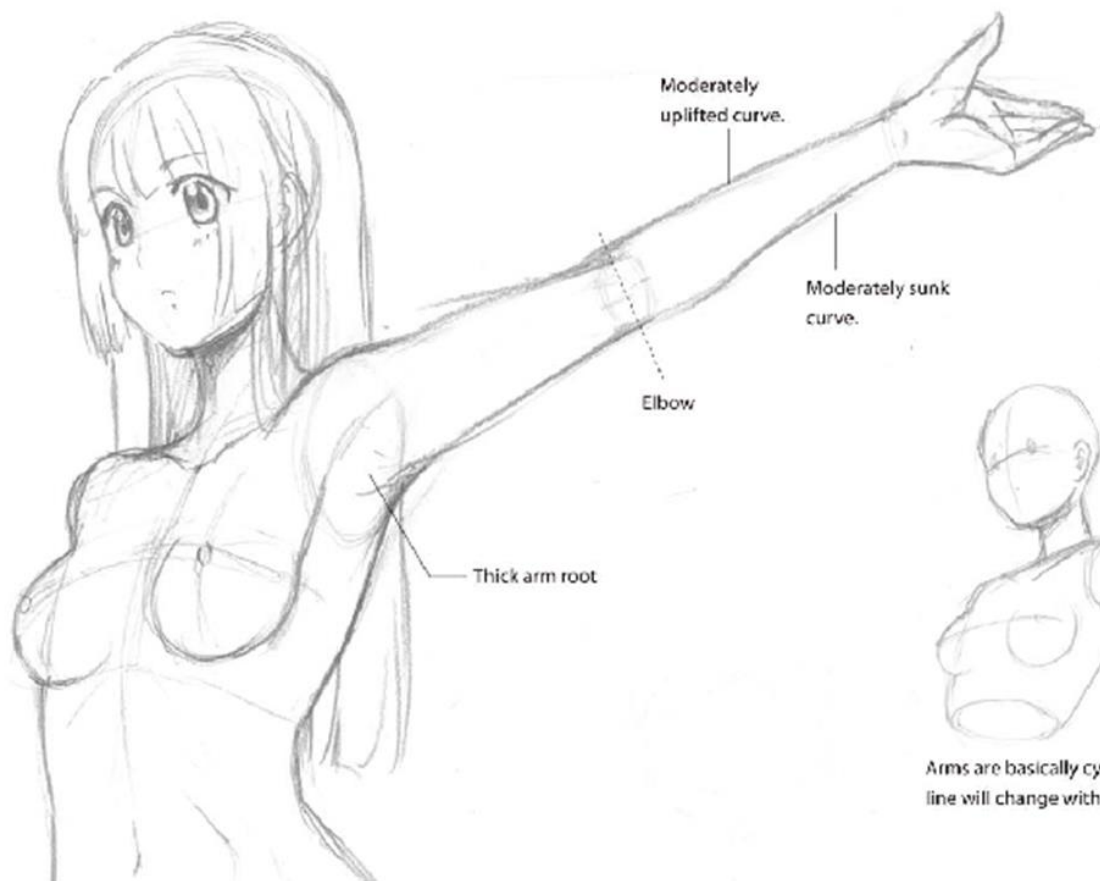


The arm curves do not change much when the palm is put skywards.



Basically a straight line.

Turn over the palm, and the muscles under the elbow will rise.



Arms are basically cylindrical. The contour line will change with twisted wrist.

Learn relationship of shoulder and arm with inconspicuous errors

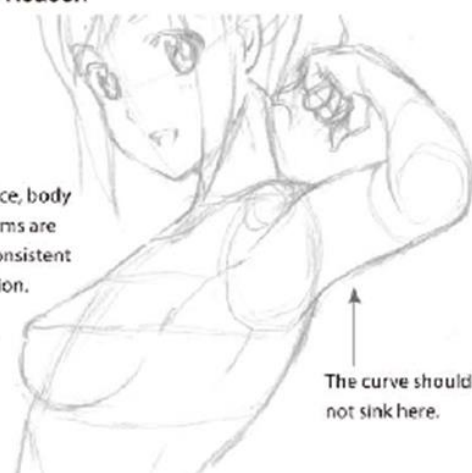


Error examples



# Reason

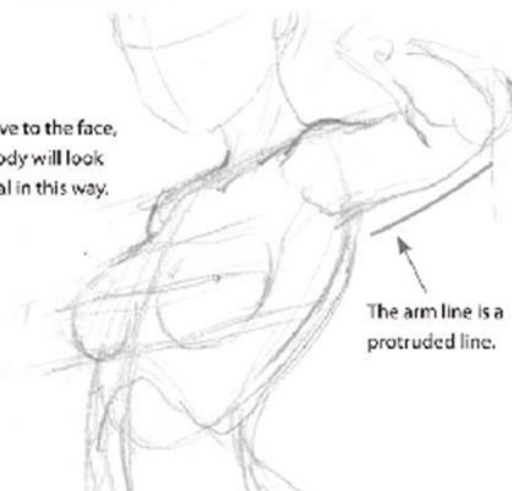
The face, body and arms are in inconsistent direction.



The curve should not sink here.

# Countermeasure

Relative to the face, the body will look natural in this way.



The arm line is a protruded line.

Stressing arm muscles will make the structure more explicit, but the figure will look strong in the picture.



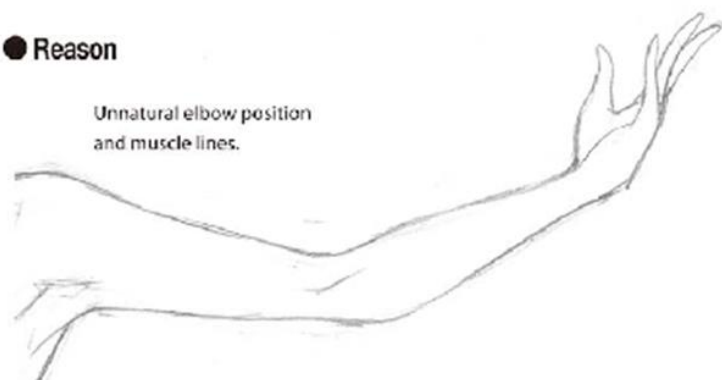
Learn arm lines  
with inconspicuous errors



Error examples

● Reason

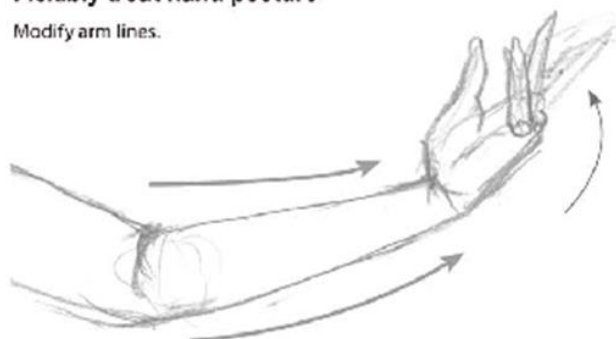
Unnatural elbow position  
and muscle lines.



● Countermeasure 1

Flexibly treat hand posture

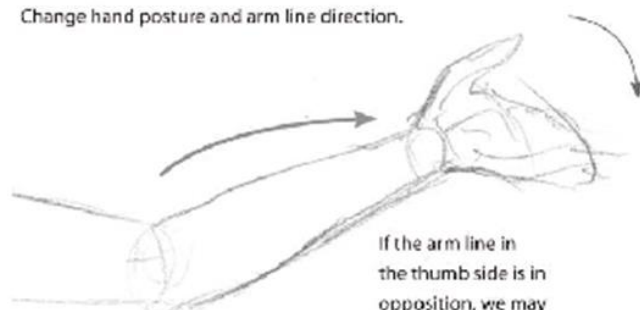
Modify arm lines.



● Countermeasure 2

Flexibly handle arm lines

Change hand posture and arm line direction.



If the arm line in  
the thumb side is in  
opposition, we may  
change the hand posture  
according to the arm line.

Modify it with  
countermeasure 2.

Same modification is  
applied here.





## Find out the lines around the arm

### ● Normal angle

Emphasize arm muscles with sunken curves.



Draw small dots at protruding arm curve to make it look slender with muscles. It helps to make the figure lovely.

- The left and right shoulders must be the same height.
- Draw up same sized circles in the left and right as benchmark for shoulders.



Shoulder muscle

Circle at the shoulder

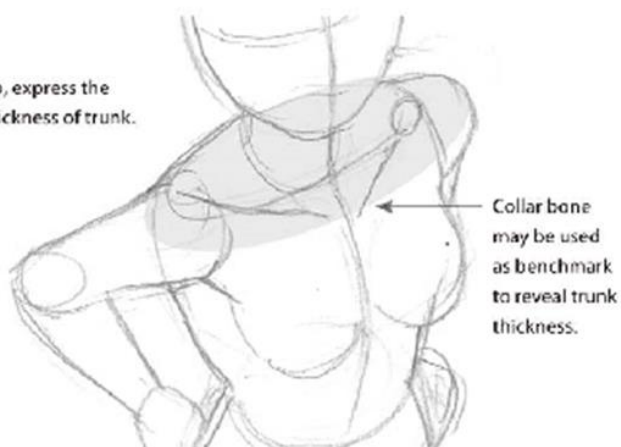
Under the rib, thickness of arm root



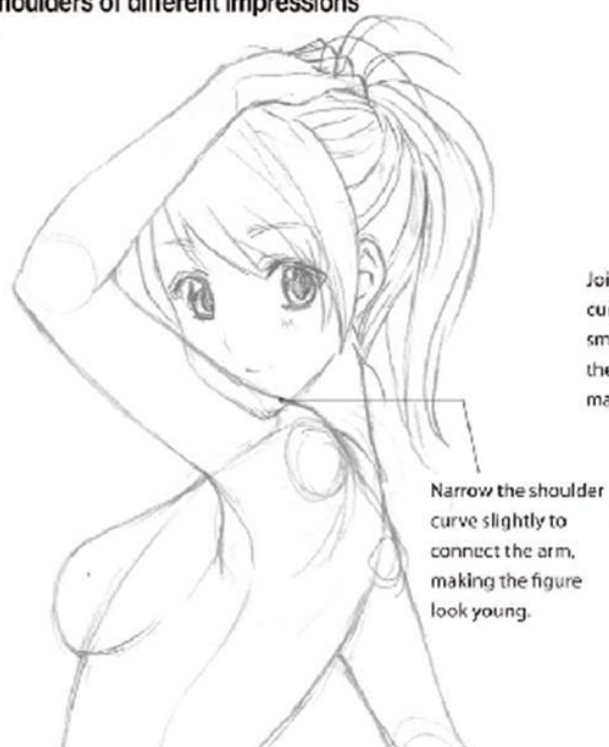
## ● Overlook perspective



Up, express the thickness of trunk.



## ● Shoulders of different impressions



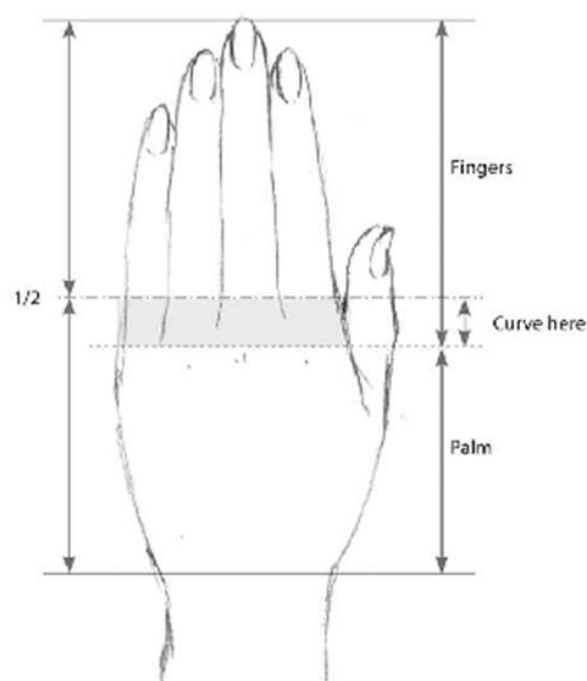
Join up shoulder curves and arms smoothly to make the figure look mature.



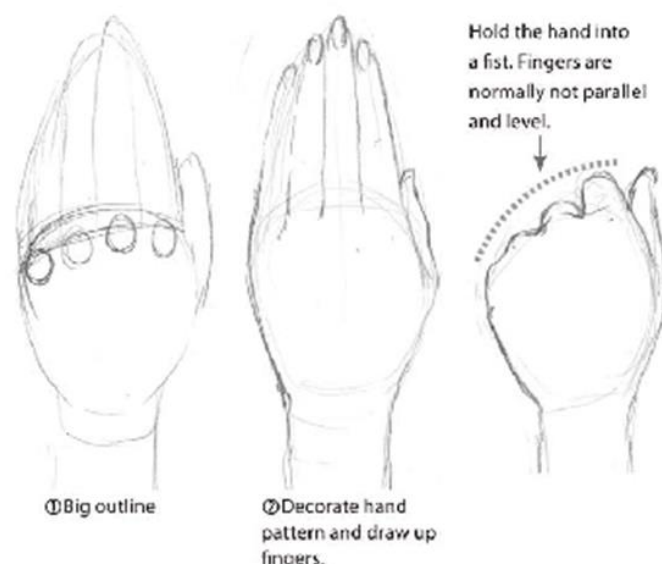
# Technique to draw hand

## Structure and proportion

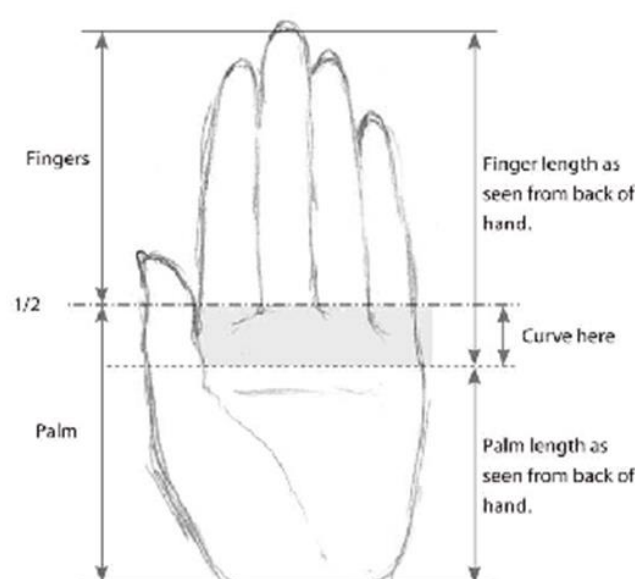
### ● Proportion of back of hand



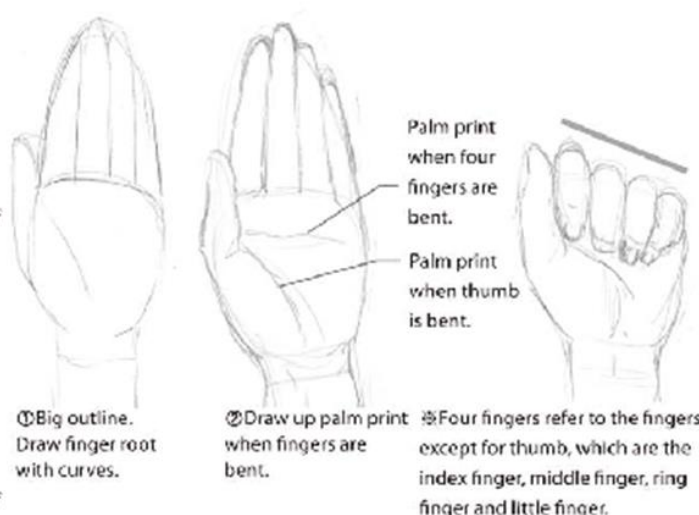
Fingers draw together. The finger root joints may also be drawn as fingers.



### ● Proportion of palm



Fingers are basically as long as the palm.



The length relations of palm and fingers vary from person to person. The proportion in the right illustration is standard. It may be used as a benchmark in drawing.

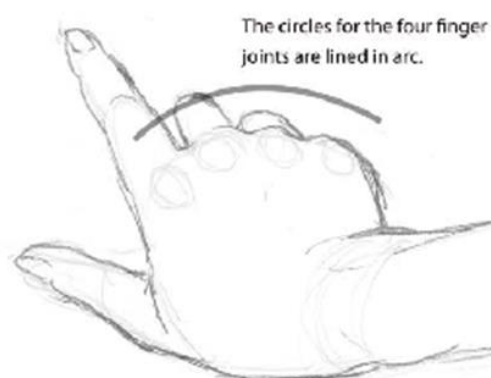


### ● Technique for drawing 1 Find out finger joint

Look at the hand from the back of hand, find out finger root joints, and draw it up.



Draw up little circles to ensure finger thickness. Remember the little circles are basically same sized.



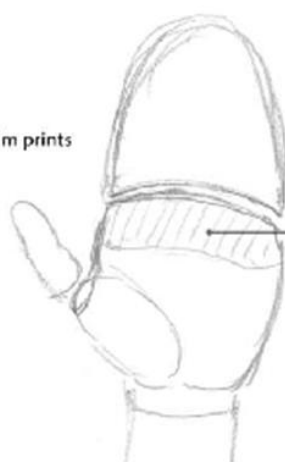
The circles for the four finger joints are lined in arc.

### ● Technique for drawing 2 Find out the blocks

We cannot see finger root joints from the palm side. We may display the position of bent fingers with palm prints.



Bent palm prints

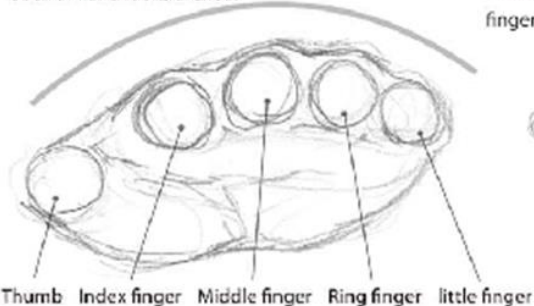


The bent area is a block rather than a line.



### ● Technique for drawing 3 Draw up thickness

Back of hand looks arched.



Thumb Index finger Middle finger Ring finger little finger

The basic contour of fingers is cylindrical.



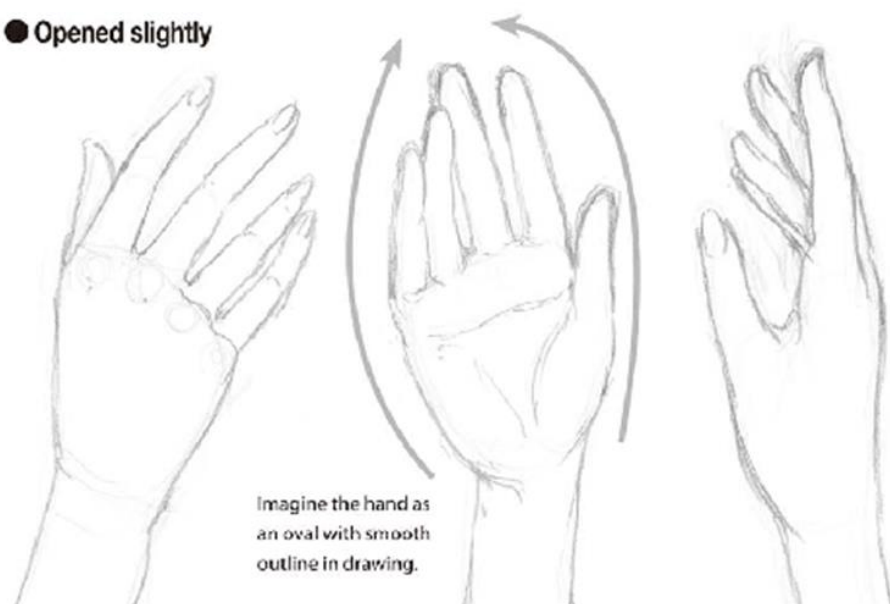
The section of wrist is oval.





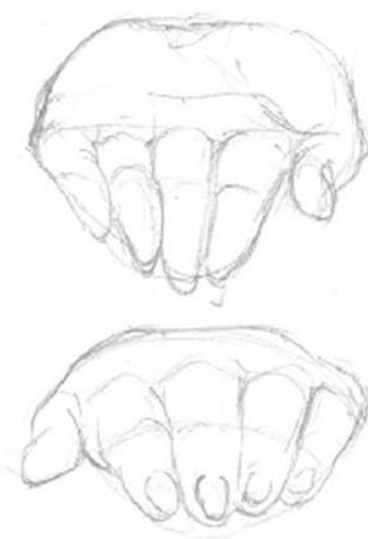
## Hand gesture

### ● Opened slightly

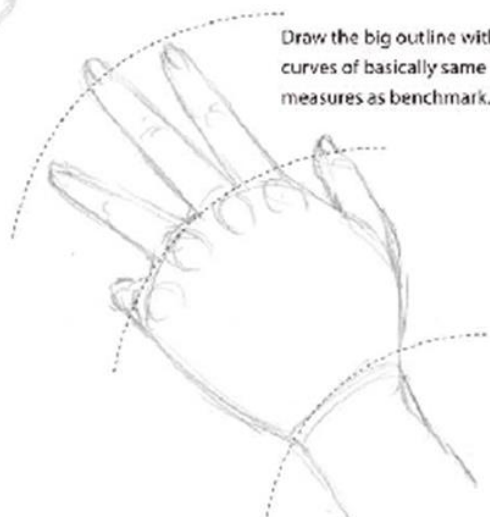


Imagine the hand as an oval with smooth outline in drawing.

### ● Hand seen in the front



Draw the big outline with curves of basically same radian measures as benchmark.

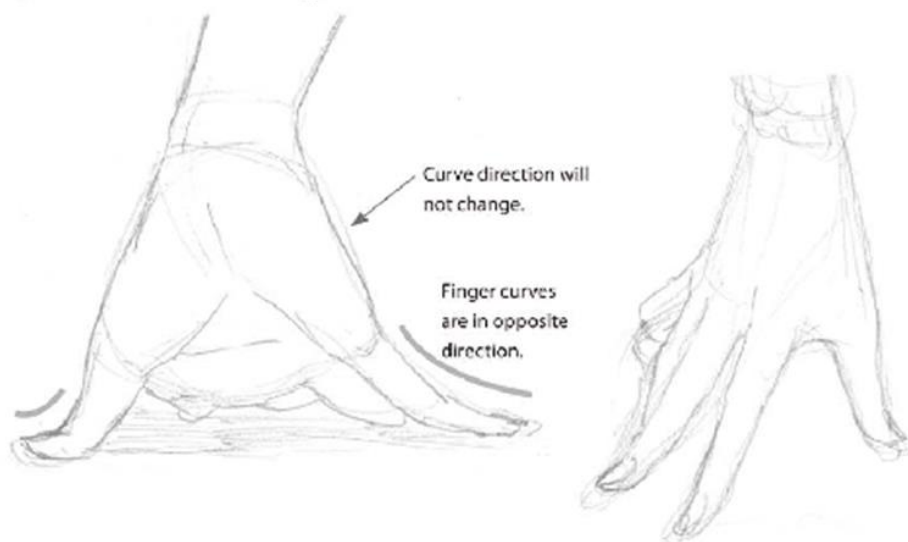


### ● Hand seen in the front side



The contour of back of hand is also a curve.

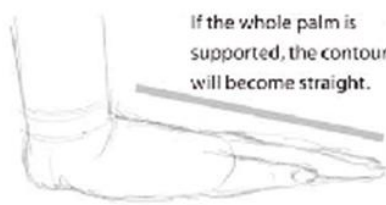
### ● Hand with extended fingers



Curve direction will not change.

Finger curves are in opposite direction.

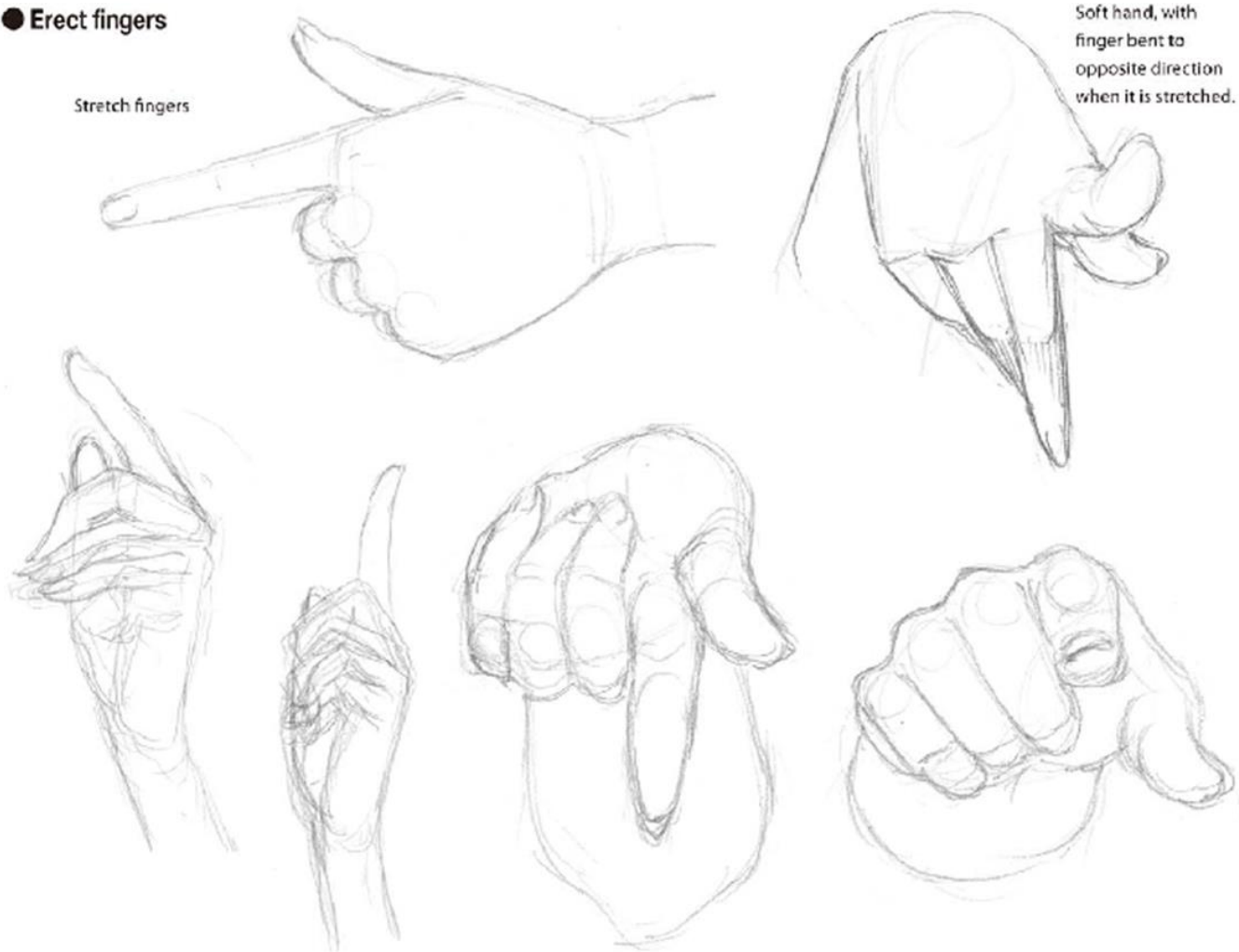
If the whole palm is supported, the contour will become straight.



## ● Erect fingers

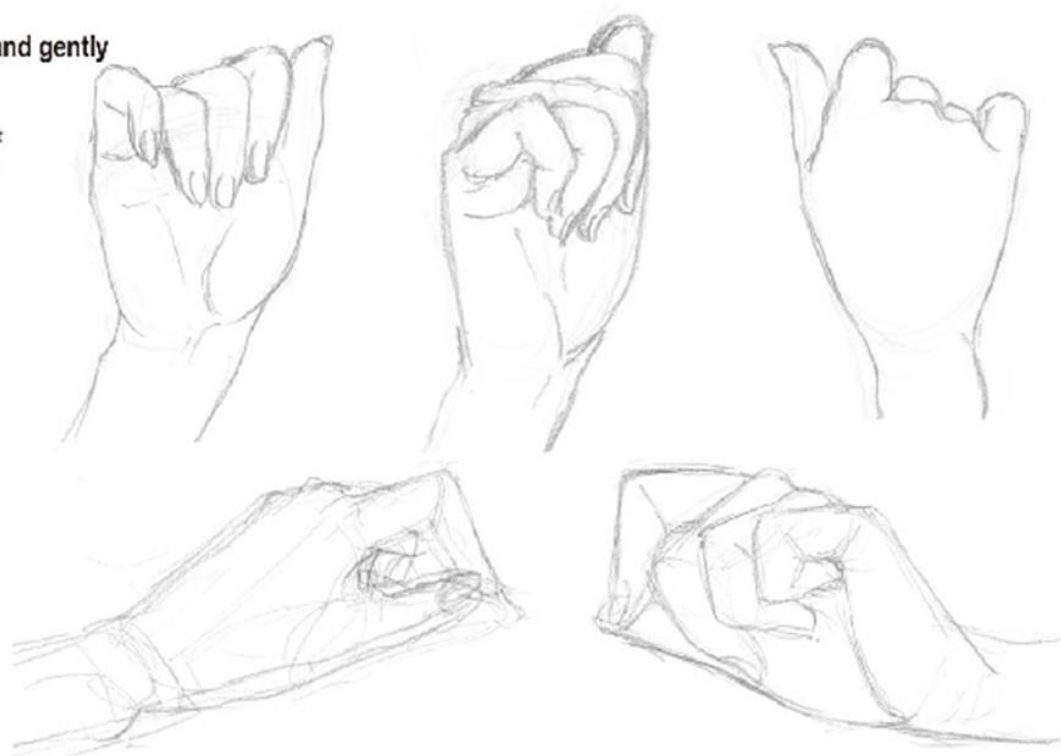
Stretch fingers

Soft hand, with  
finger bent to  
opposite direction  
when it is stretched.



## ● Hold the hand gently

Little finger will tilt  
a bit, because the  
hand is not held  
tightly into fist.



## Expressions of hands

Request



Draw the hands square-like.



Draw the hands a bit smaller when they are used to cover the mouth, to make the figure lovelier.



Draw the hands a little larger when they are bitten, to stress the action.



Yawn



Draw up outline for the hand hidden beneath, so as to more easily fix the size of the hands.



Clench one hand into fist to display uneasy feeling.



Hold up a book



The palm needs to put forth strength to support the book, with little finger and ring finger close together.

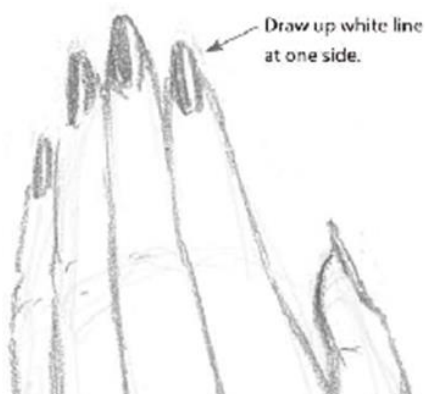


Put the hand near the ear (to listen carefully)

# ● Revelation of fingers



Stretch the fingers to look smart.



Draw up white line at one side.



Beautified nail looks square.

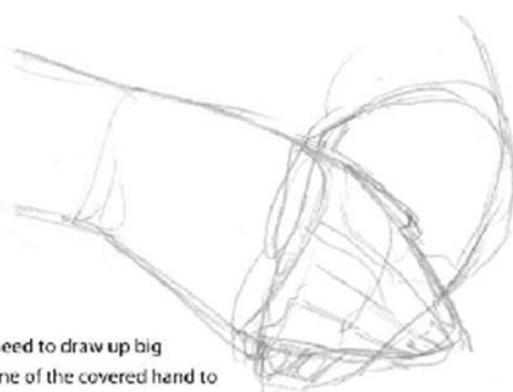
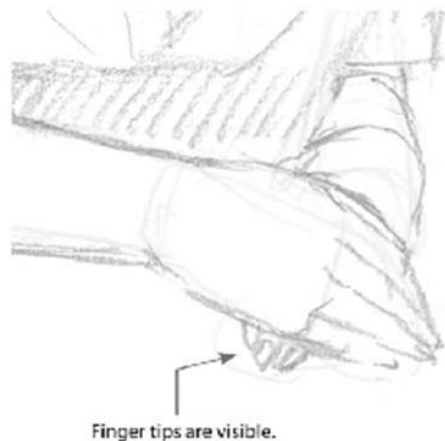
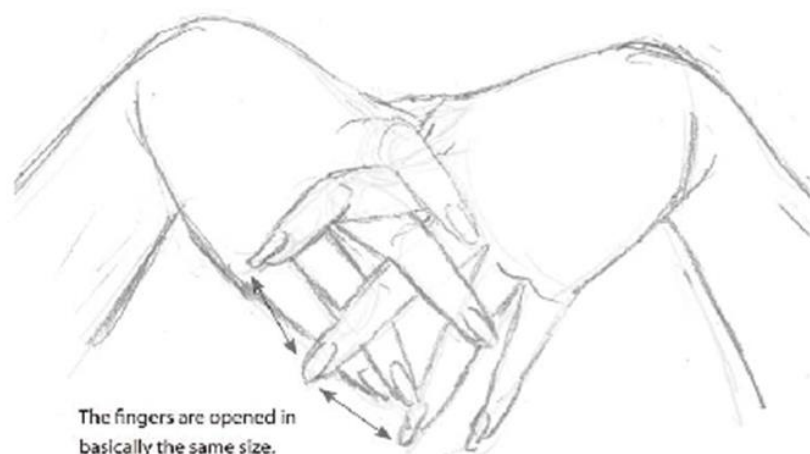
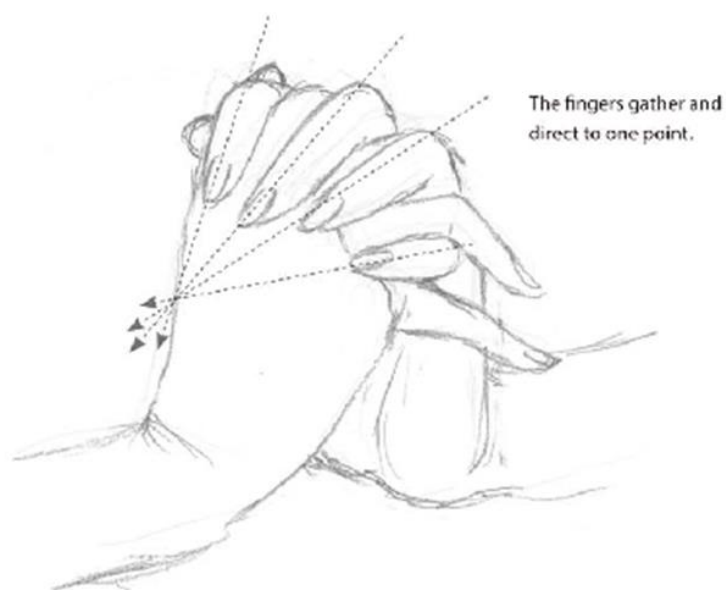


Painted nails, and finger with shining diamond ring.



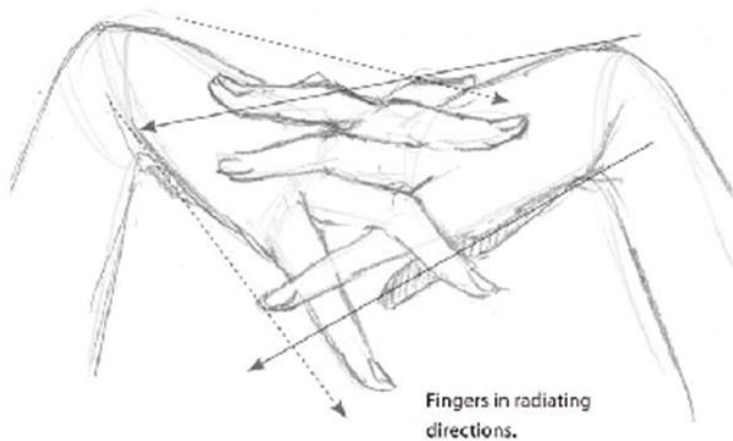
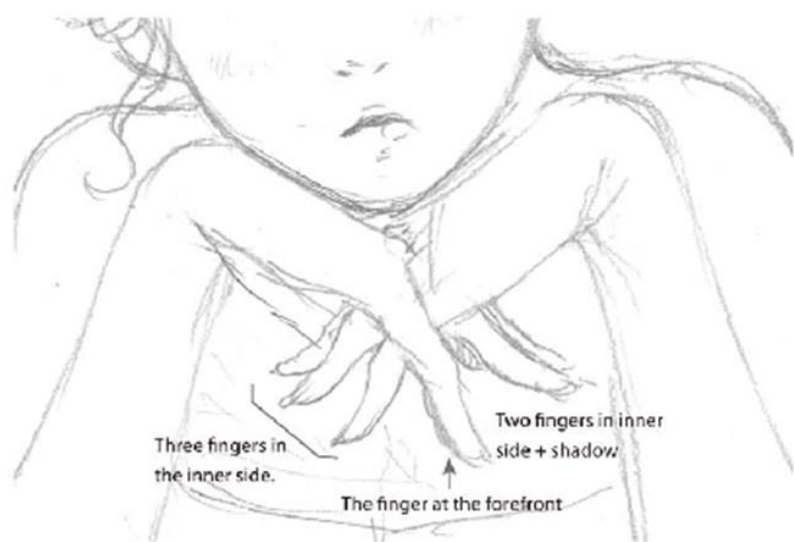
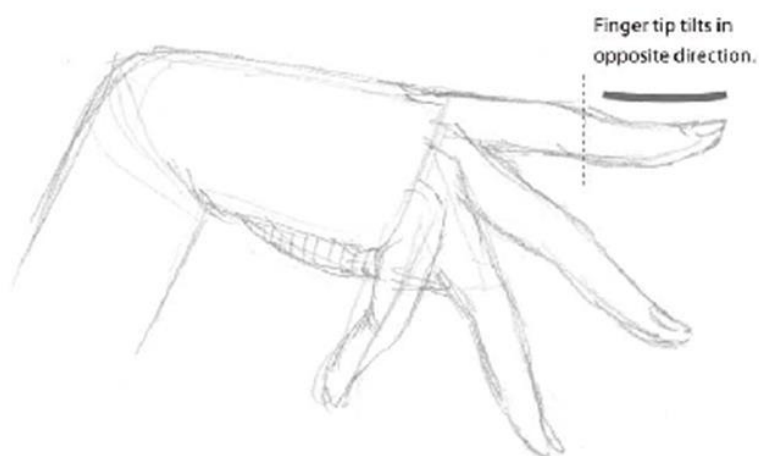


● Fold hands



We need to draw up big outline of the covered hand to fix the position of finger tips.

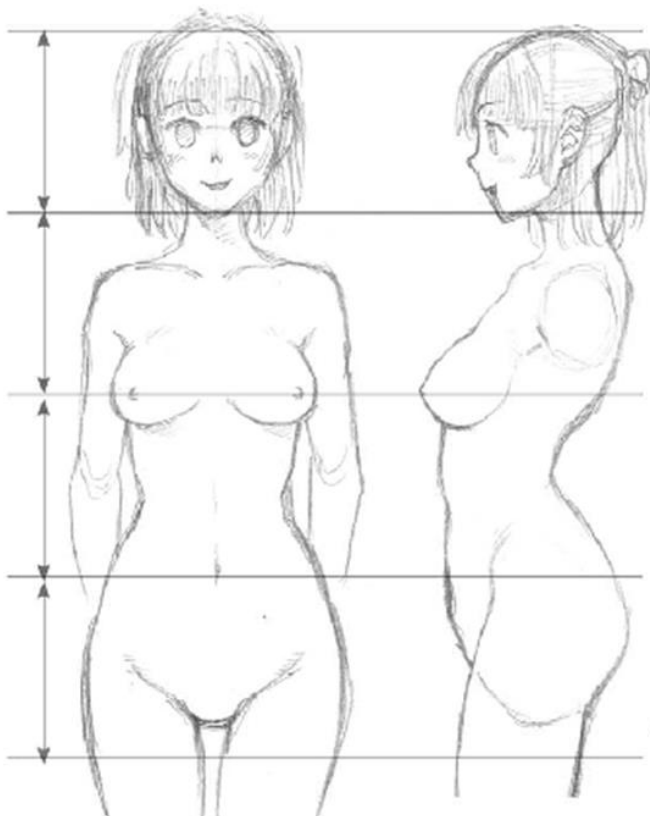
● Support the chin



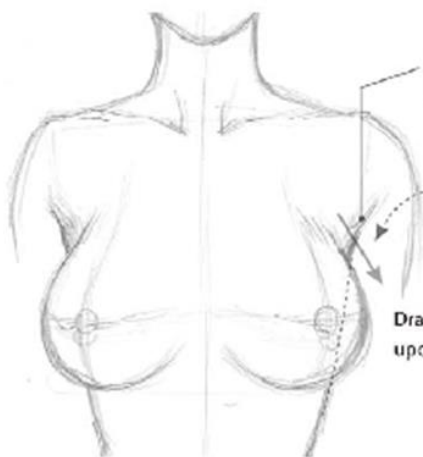
# Draw up sexy chest

## Chest structure and features

Fix the position



The chest position is about one head under the chin.



The line from ribs to the trunk.

Draw up chest line upon trunk contour.

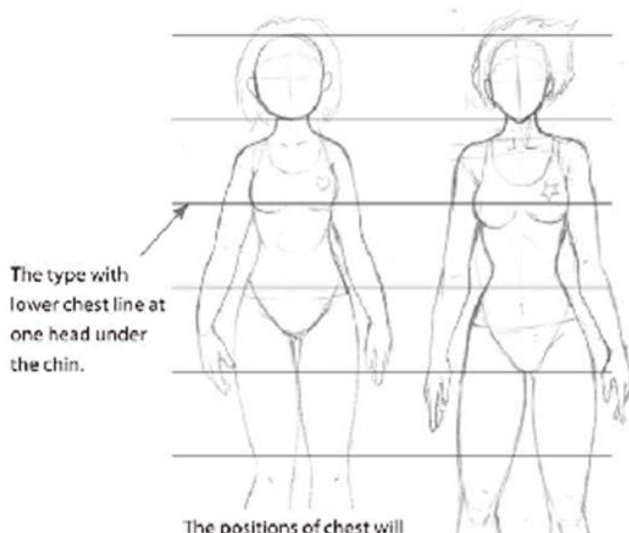


The upper chest line is a reference line to settle arm pit position.

They are drawn roughly in parallel.

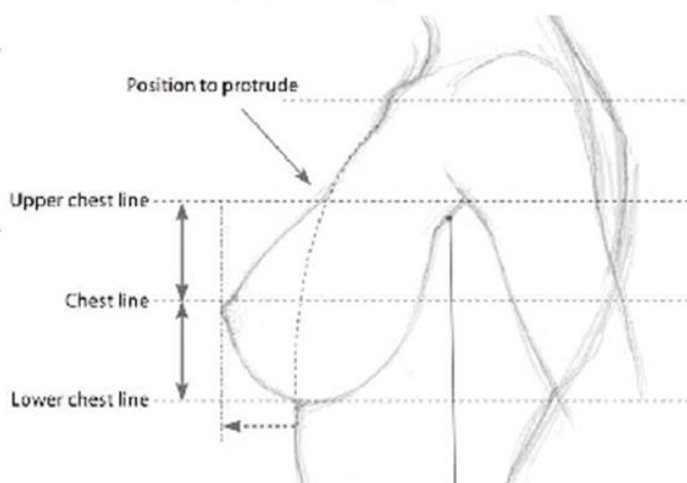
The chest is a key symbol to be female body gesture.

Chest lines and chest position. They vary according to head and body and size changes.



The type with lower chest line at one head under the chin.

The positions of chest will vary if the head-and-body proportions change.



Position to protrude

Upper chest line

Chest line

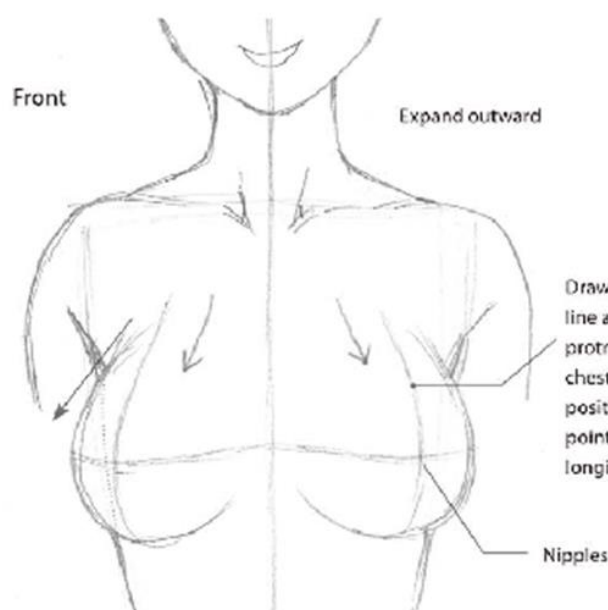
Lower chest line

The chest line is positioned between the upper and lower chest lines, with balanced proportions.

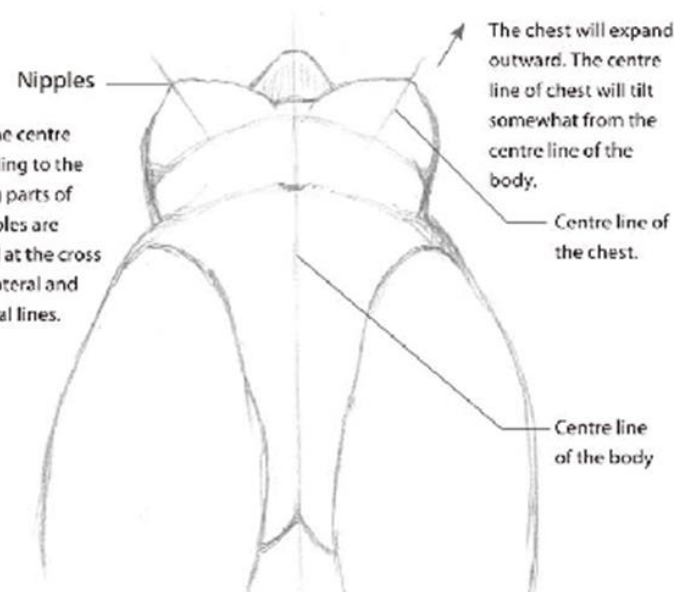
The chest lines are stretched to the ribs.

# Draw up the chest

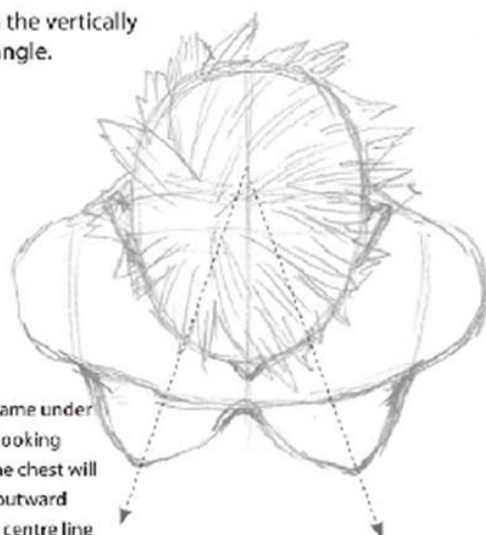
The chest (breasts) expands to the left and right from the centre line of the body.



Draw in the low angle view.



Draw in the vertically upper angle.



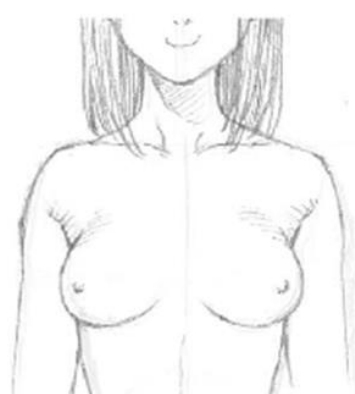
It is the same under the overlooking angle. The chest will expand outward from the centre line of body.

Low angle view



If the nipples are not equally high, the sizes of left and right parts of the chest will look different. Use the chest line and lower chest line as references in drawing.

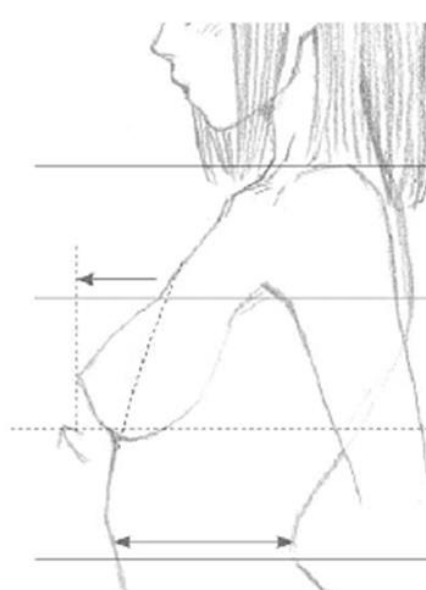




Normal type



Plus-size type



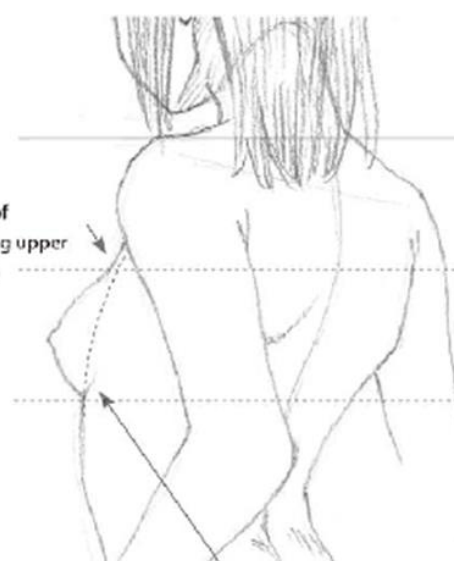
Plus-size type woman has larger chest than normal type woman.



The chest droops because of fullness. The lower chest line is a bit lower positioned.

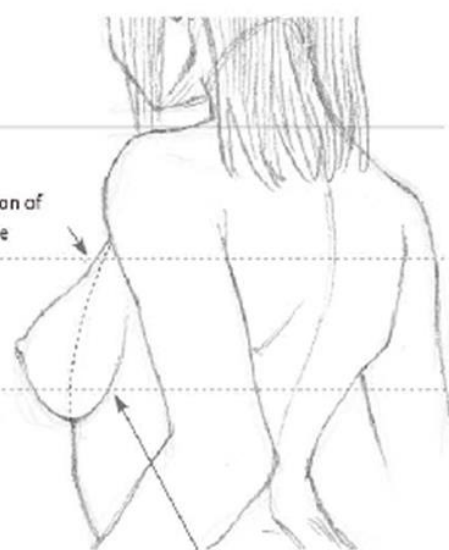
The figure has more fat, so the lines connecting the armpit become thicker.

● Identical trunk thickness



Position of protruding upper chest line

Few lines to connect the trunk



Identical position of upper chest line

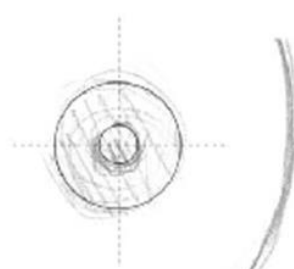
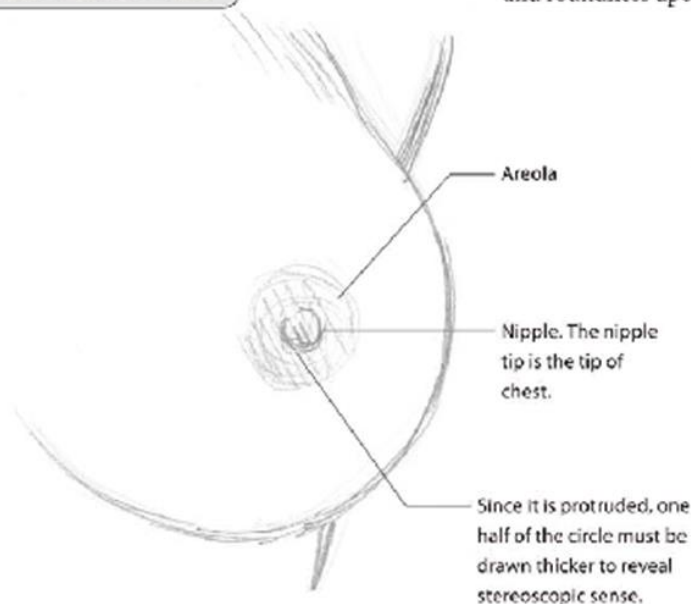
Long lines to display the size

## Draw up nipples and areolas

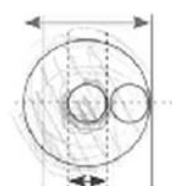
The nipples and areolas may be seen as cylinders and roundness upon spherical surface.



Front



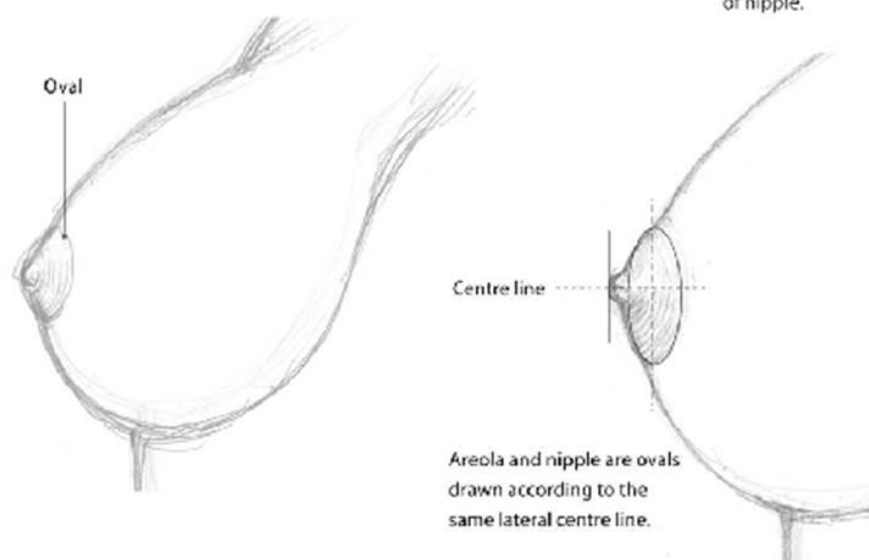
It is perfectly round as seen in the front.



The diameter of areola is decided by the size of nipple.



Front side



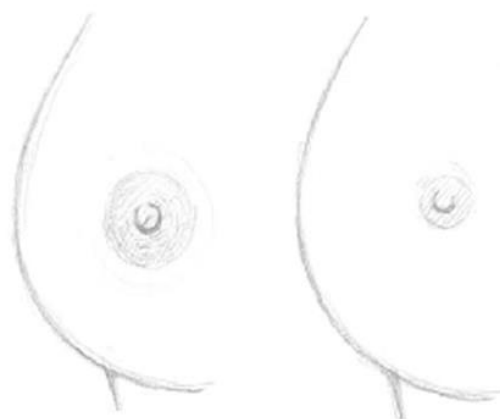
## ● Different sizes and shapes



Big nipple



Small nipple



Nipples and areolas fall into many proportions.

## Chest under various shapes

The chest may display various shapes according to the applied curves.

### ● 3/4 side



Small chest, with barely a curve for lower chest line.



Medium sized



Medium sized



Plus-size type



Plus-size type



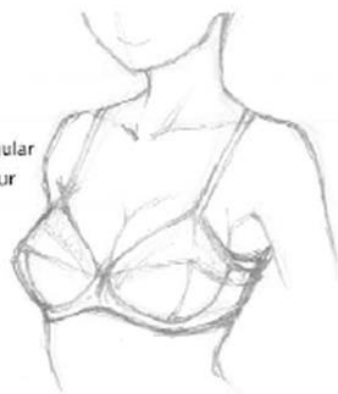
Gorgeous plus-size type

### ● With underwear

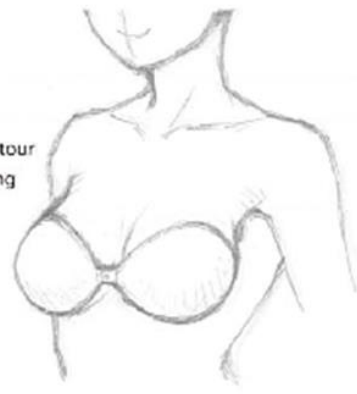
Round contour



Triangular contour



Round contour approaching natural condition



# ● Front side

Compare positions for chest tip and lower chest line.

Small and exquisite type

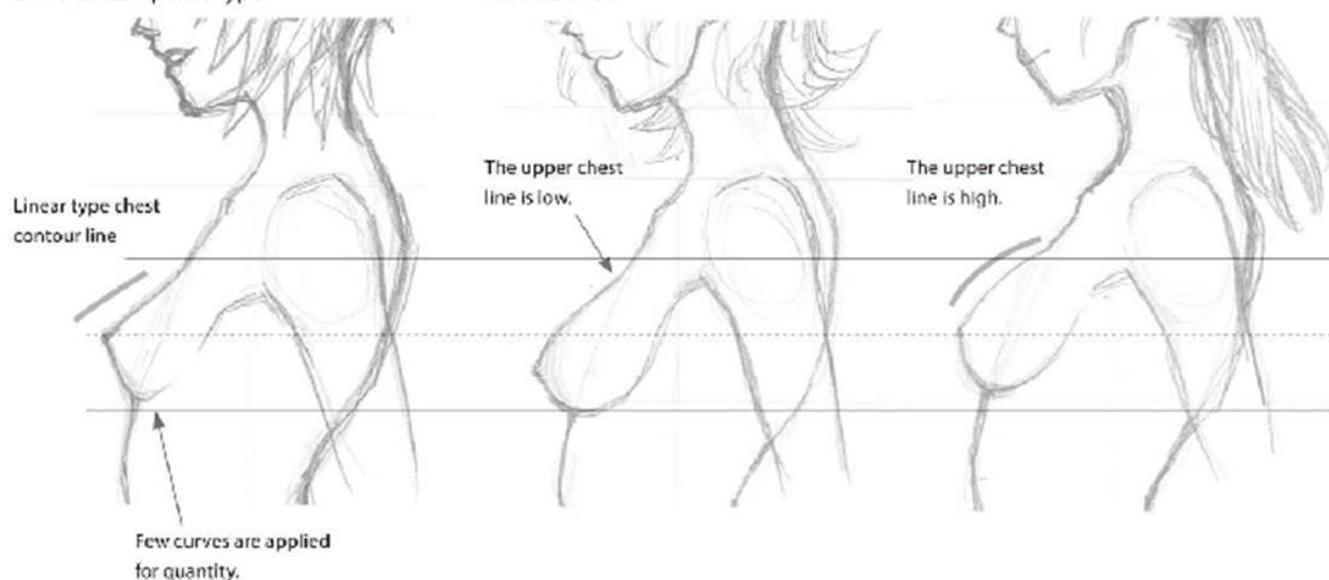
Medium sized

Plus-size type

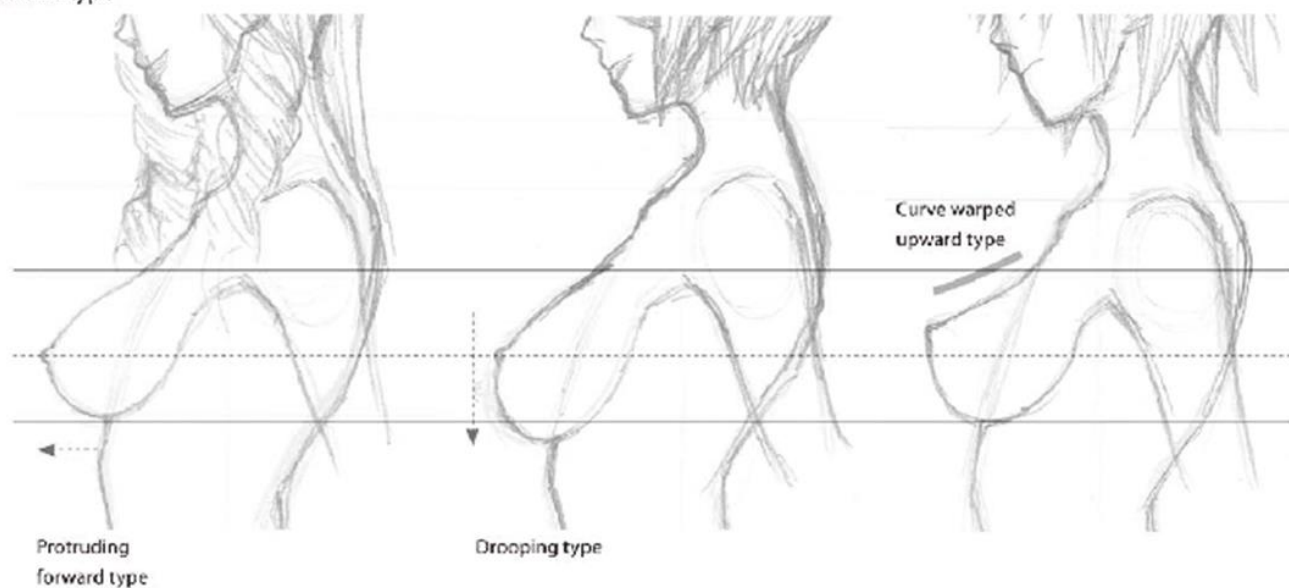


Small and exquisite type

Medium sized



Plus-size type





## Chest movement

~ Shape changes from movement ~

The chest is made of soft fat. It will change in shape because of weight and force of inertia.

### ● When the body tilts forward



When the figure stands normally

The breasts may be stretched somewhat according to the sizes.



The nipples are fundamentally downward.



### ● Squeezed by arms in walking



When marching forward with wielded arms.



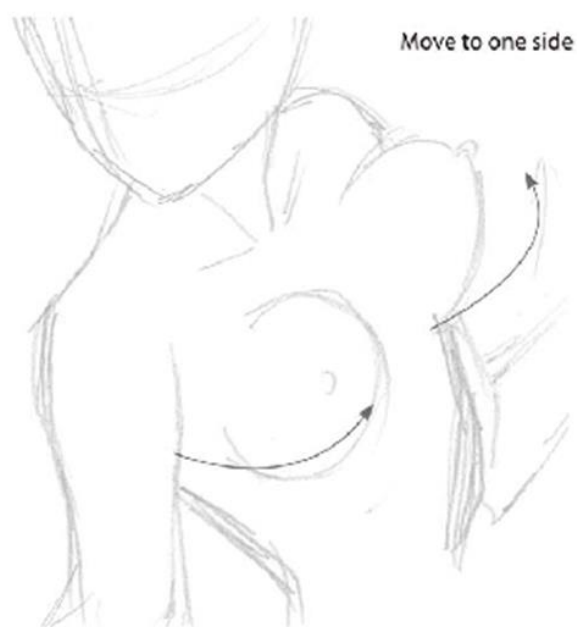
Turn into vertical oval.

Face the front.



The chest will be squeezed out for shape when elbows shove inward.

● Jump up, to both sides, and in slanting direction.



Move up and down  
(cartoon-style  
transformation)



There will not be big  
movement with underwear.

## How to draw the chest more beautiful

It is a frequently applied technique in the fashion circle to highlight the chest line and offset female charms. This method may also be flexibly used in drawing.

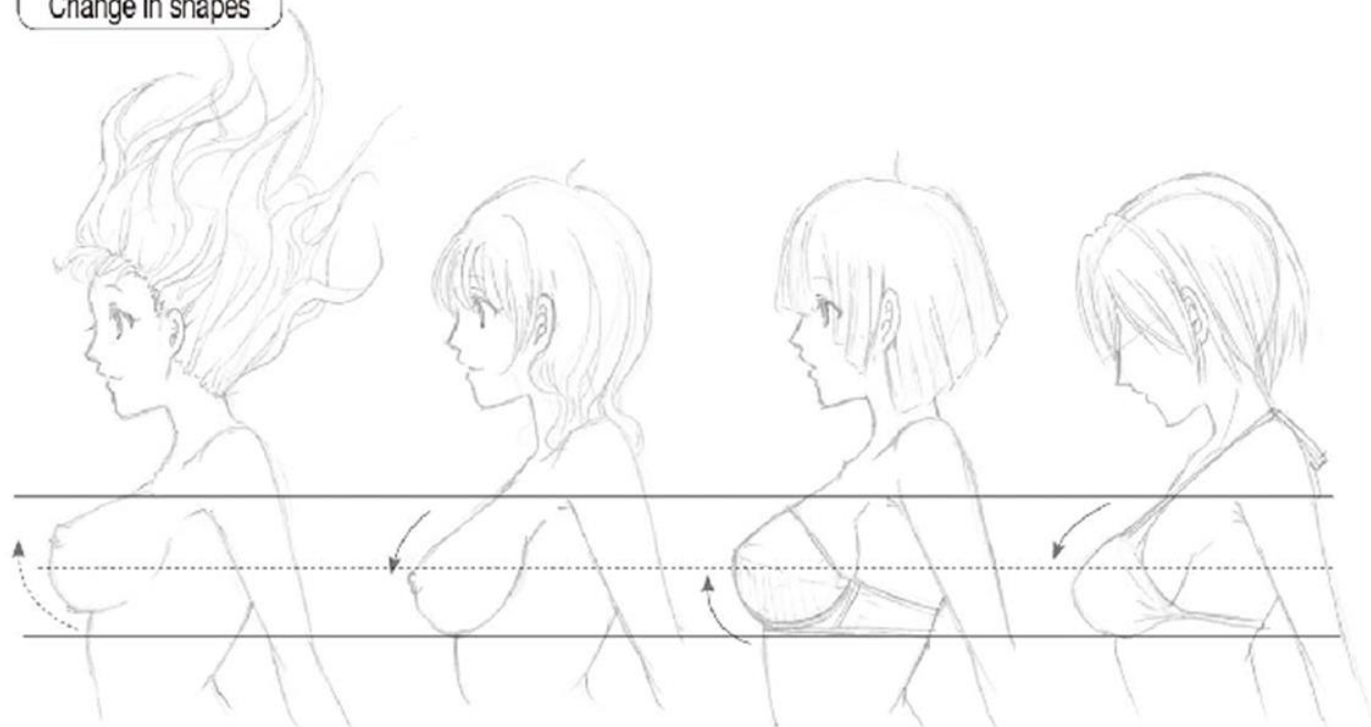


Cleavage. It may be expressed in a fashionable way to display female charms.



The chest has no cleavage under natural undecorated state.

## Change in shapes



The chest looks like it's floating and ignoring gravitation.

The chest droops a bit under gravitation, with dimension size.

The chest shape is adjusted with underwear, as it supports the chest.

The chest looks lovely in swimsuit. There are many swimsuits to maintain natural state of chest.

## Underwear

Underwear facilitates sport and helps to cultivate body shape. Therefore, it is referred as shape-perfecting underwear.



Shoulder girdle does not cling to the skin.

Press close to body

Produced with thick and solid cloth to cover nipples that are partly hidden and partly visible.

Fundamentally straight line.

Slightly deflexed curve.

Under low angle view, the underwear line will change along with variation of body curve.

The radian measure is larger than the underpants curve.

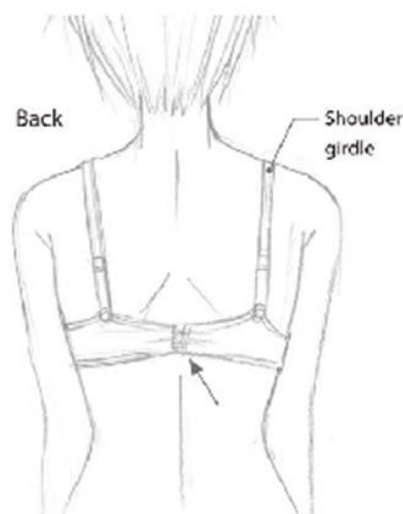


The cloth belt in the lower part the underwear is drawn into deflexed curve.



Cloth belt

Decorate the brim with laces to make it more attractive underwear.



Back

Shoulder girdle

Fastened with hooklets. Since the force point is small, there will be many petty wrinkles after it is stretched.



Underwear without shoulder girdle, or with shoulder girdle removed.



Underwear is sold at various prices according to the shape, size and materials. They are presented in multiple varieties.



## Various manifestations of chest

### ● Manifestations with underwear



**Normal manifestation**  
Most fundamental shape (sports underwear), with body-perfecting and protection performances to make the figure lovely.



**Manifestation to reveal sensual appeal**  
Bind it up forcefully, and the chest will change in shape.



**Manifestation of changing the shape**  
Fill in stuffing to change the chest shape.

### ● Manifestation without underwear



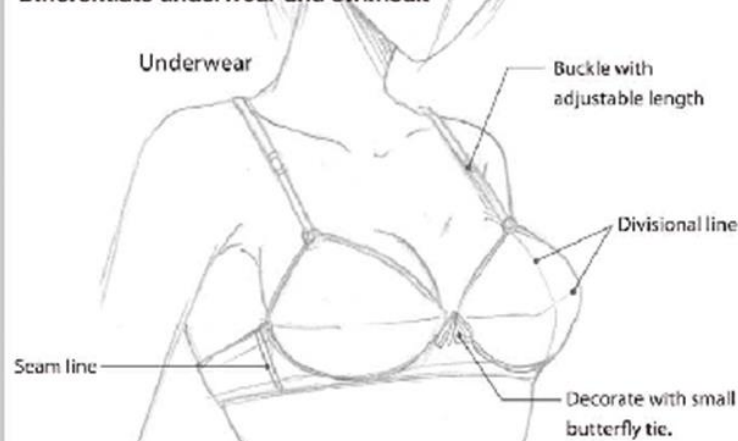
Display the body with tight skirt.



Display chest with shape wear.



## Differentiate underwear and swimsuit



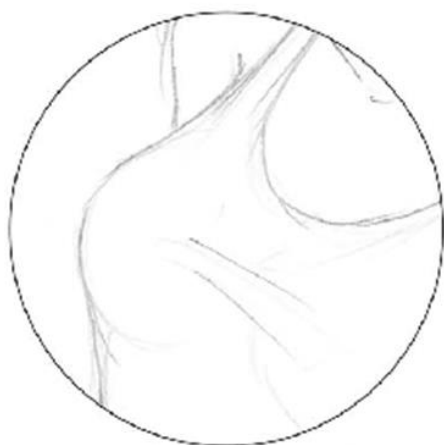
● Manifestation with wrinkles



With underwear



Without underwear



Bring forth the plump and soft chest with curves.



Embody the protruding nipples with crest line and contour of underwear.

● Effects of special props



Attach



Nipple cover



It may be substituted with band-aid.



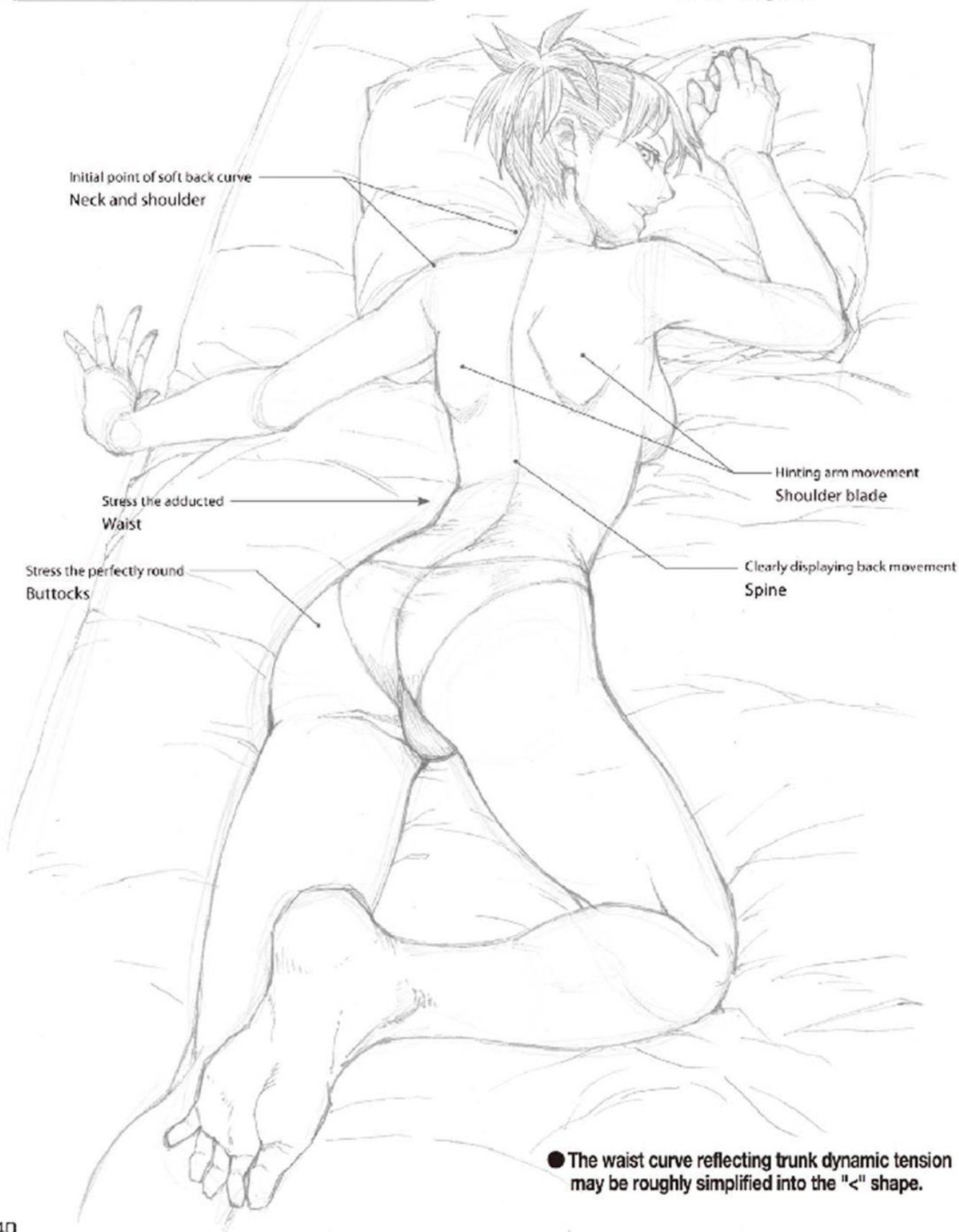
Elegant and natural chest line may be made without underwear (collar opened to such a height will normally expose underwear).

# Draw up enchanting back

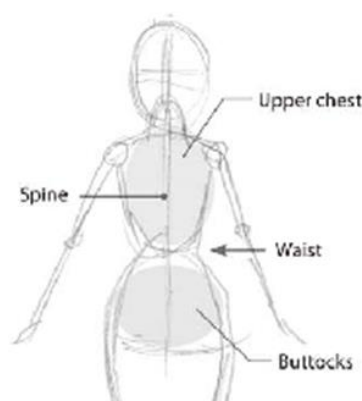
The "<" shape back is the key in expression.

## Draw up the prostrate posture

The prostrate posture will fully display the charming back.



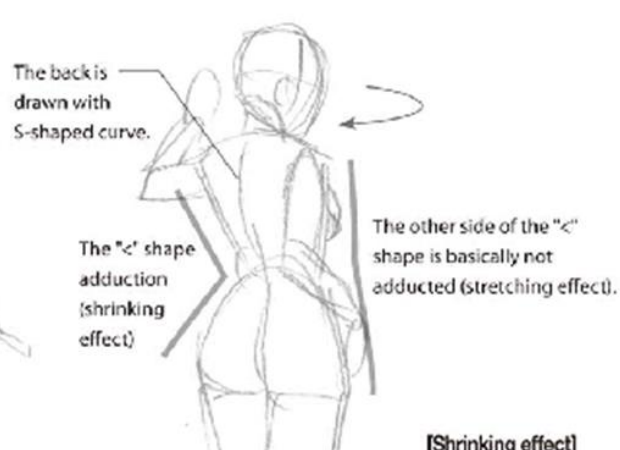
## ● Key points to draw up the back



① Big outline. Find out the spine line and fix the position of waist according to head-and-body proportion.



② Draw up body thickness with oval and curves.



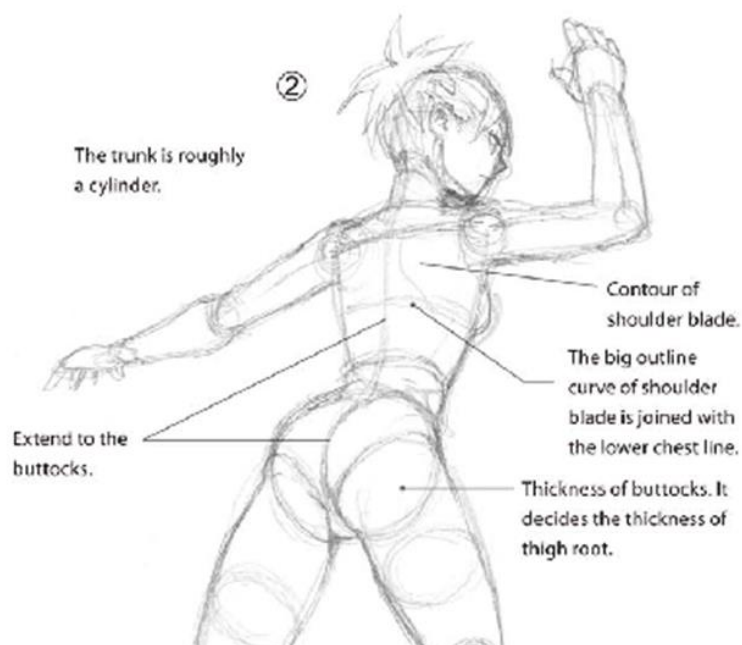
In drawing the 3/4 side, we stress adduction of waist line at one side.

**[Shrinking effect]**  
Highlight the < shape in the waist to bring in the tension of movements.

## ● Steps to draw the prostrate posture



Draw up big outline  
The shoulder line and pelvis line are not parallel, so the waist will experience considerable stretching and shrinking.

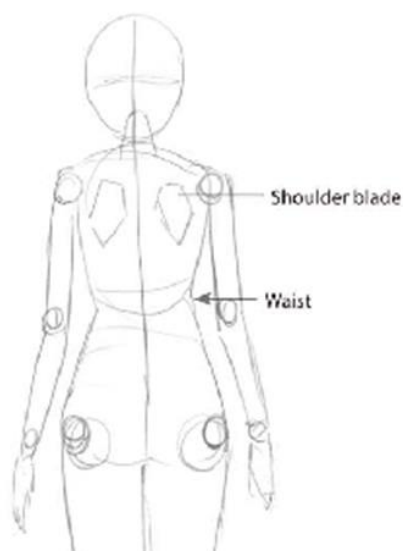
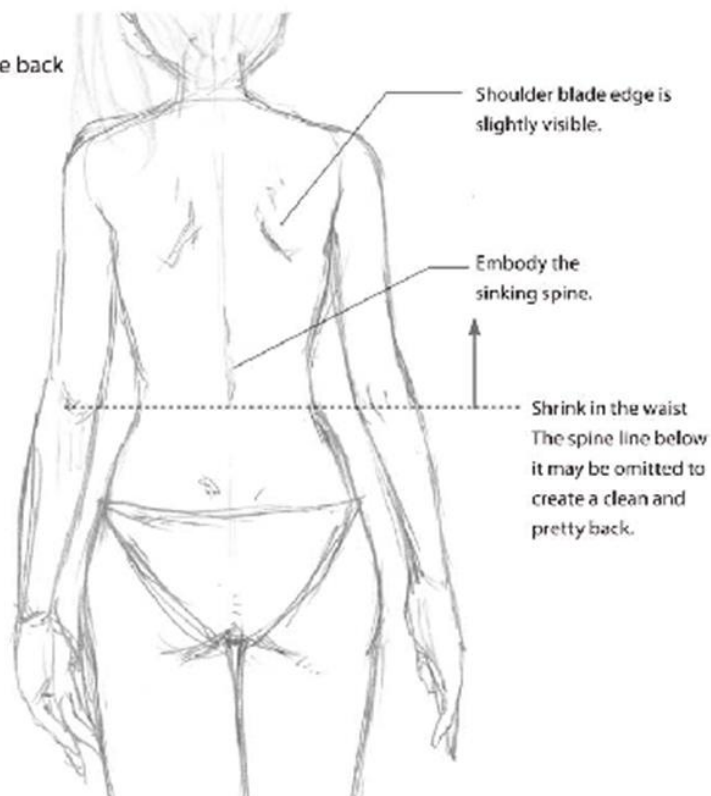




## Revealing of the back

Draw up the back from various angles.

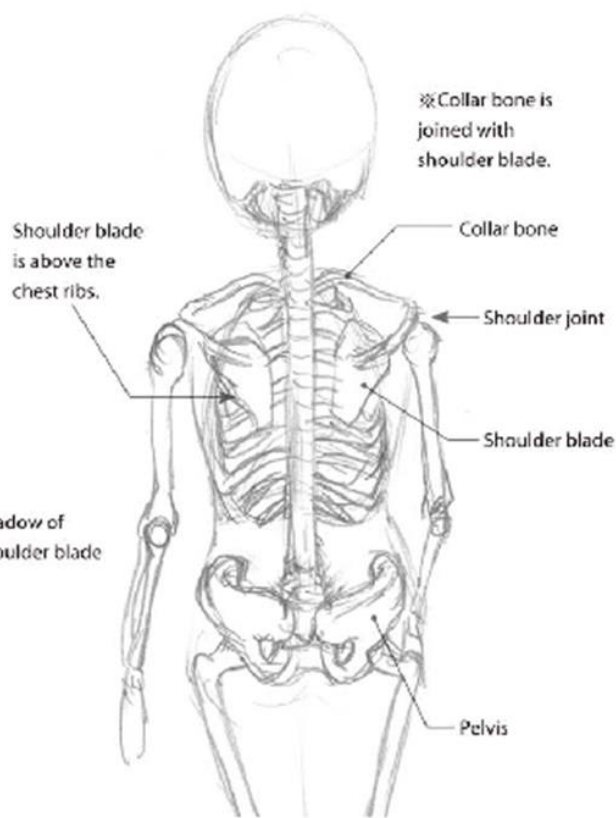
The back

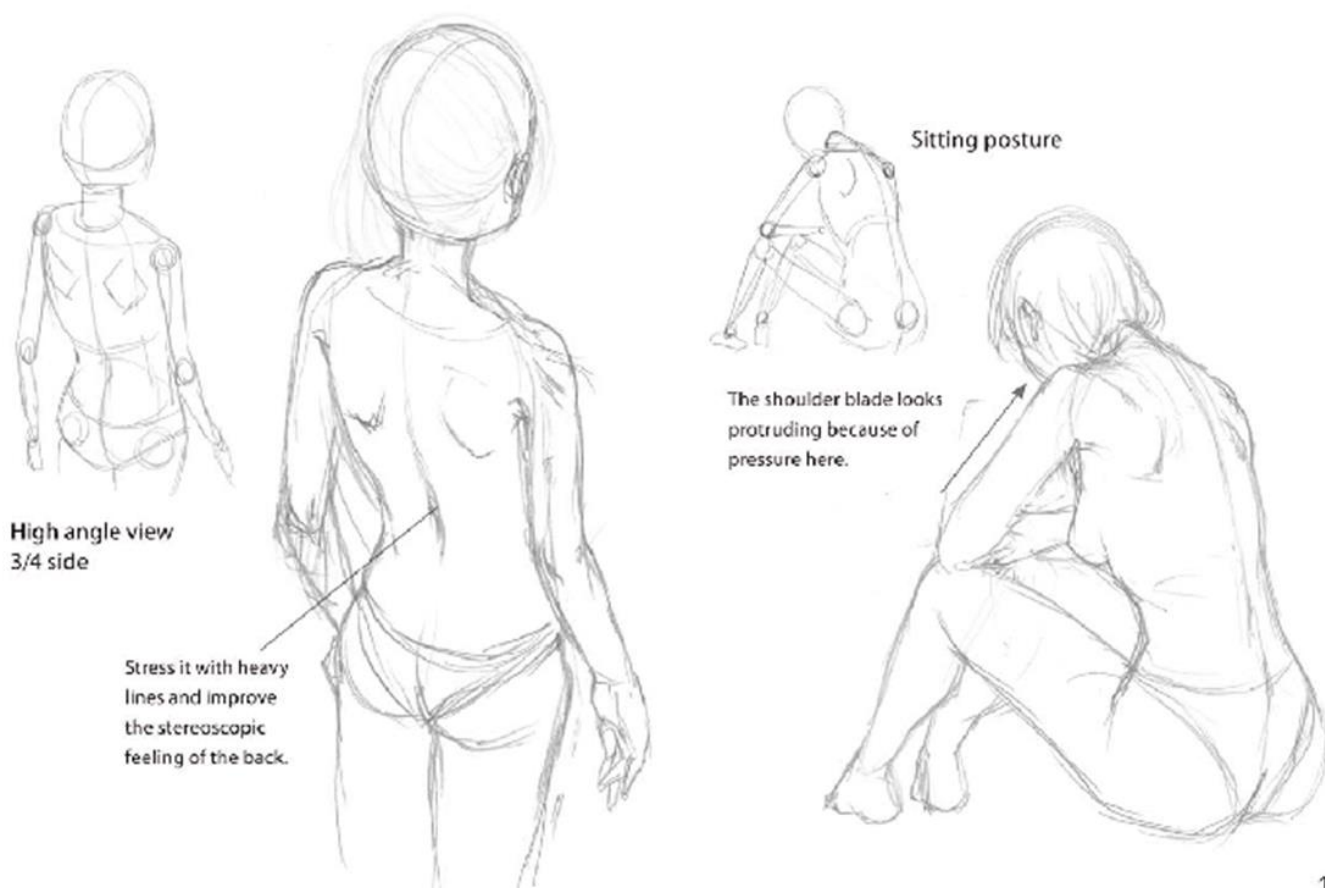
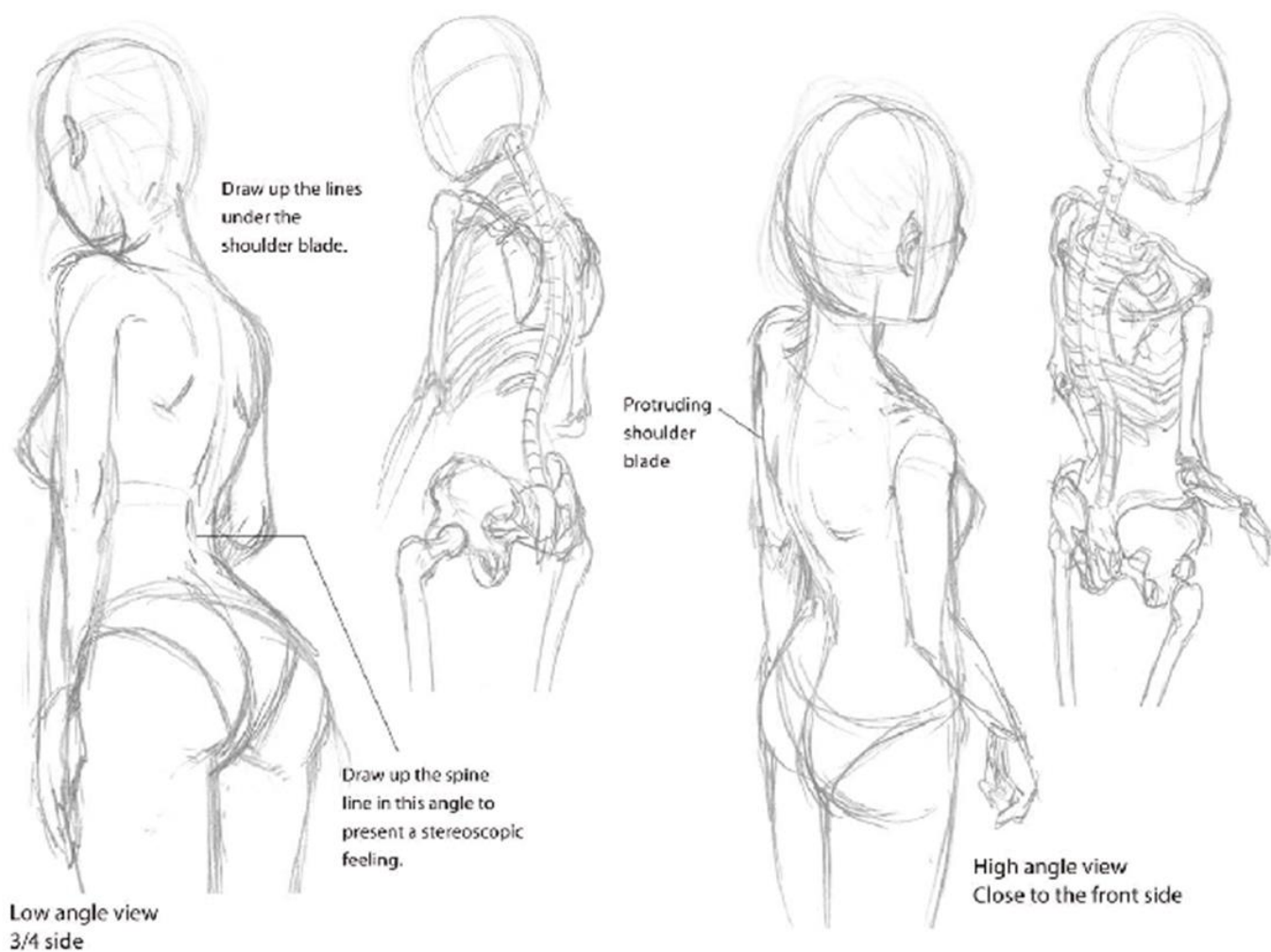


Big outline. It is the benchmark to draw up main parts and positions.

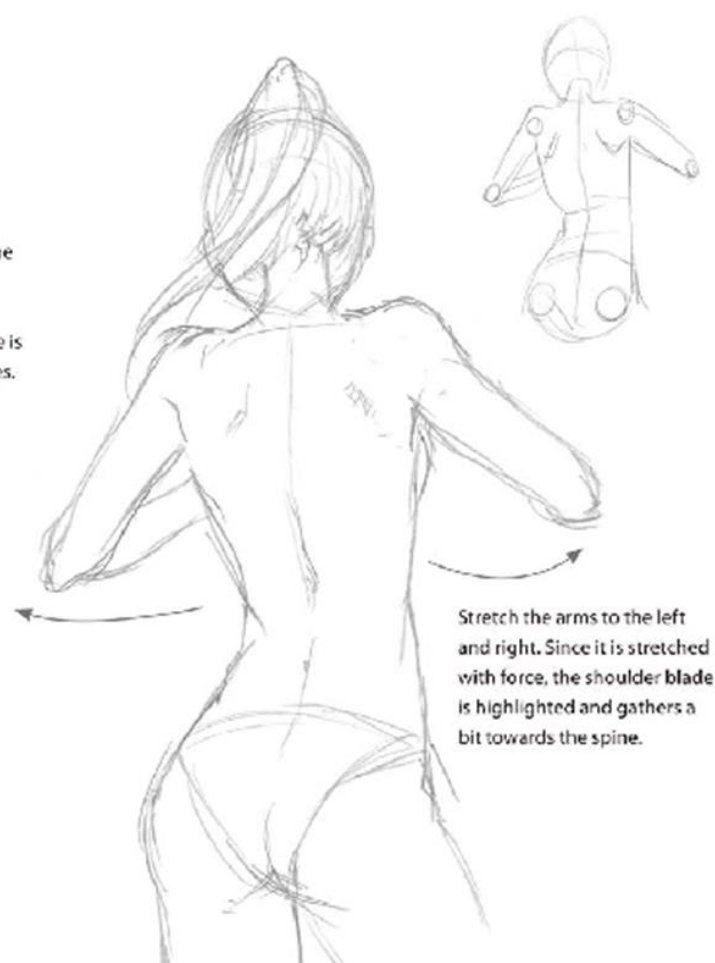
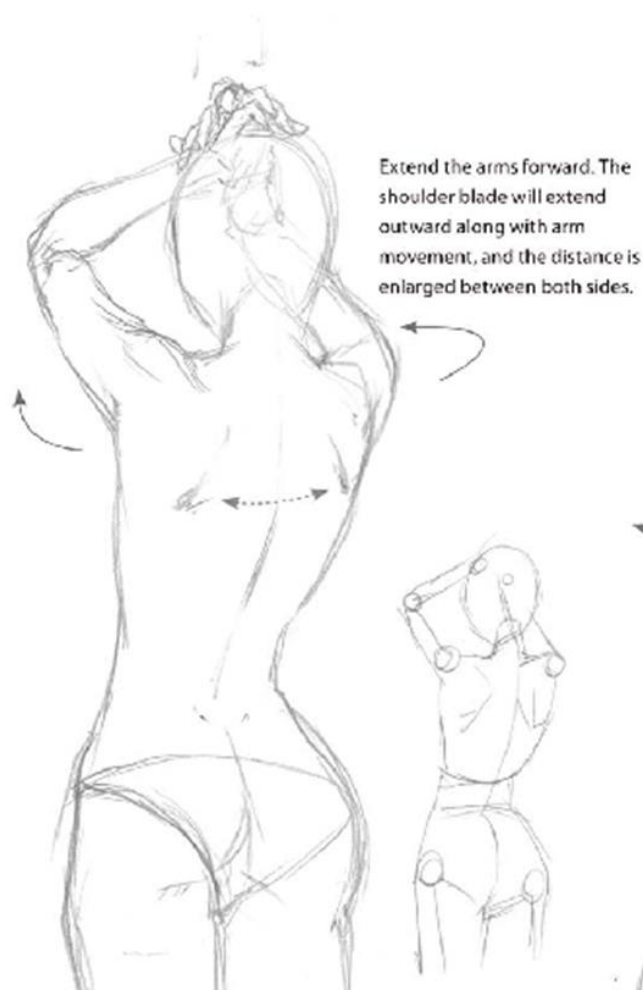


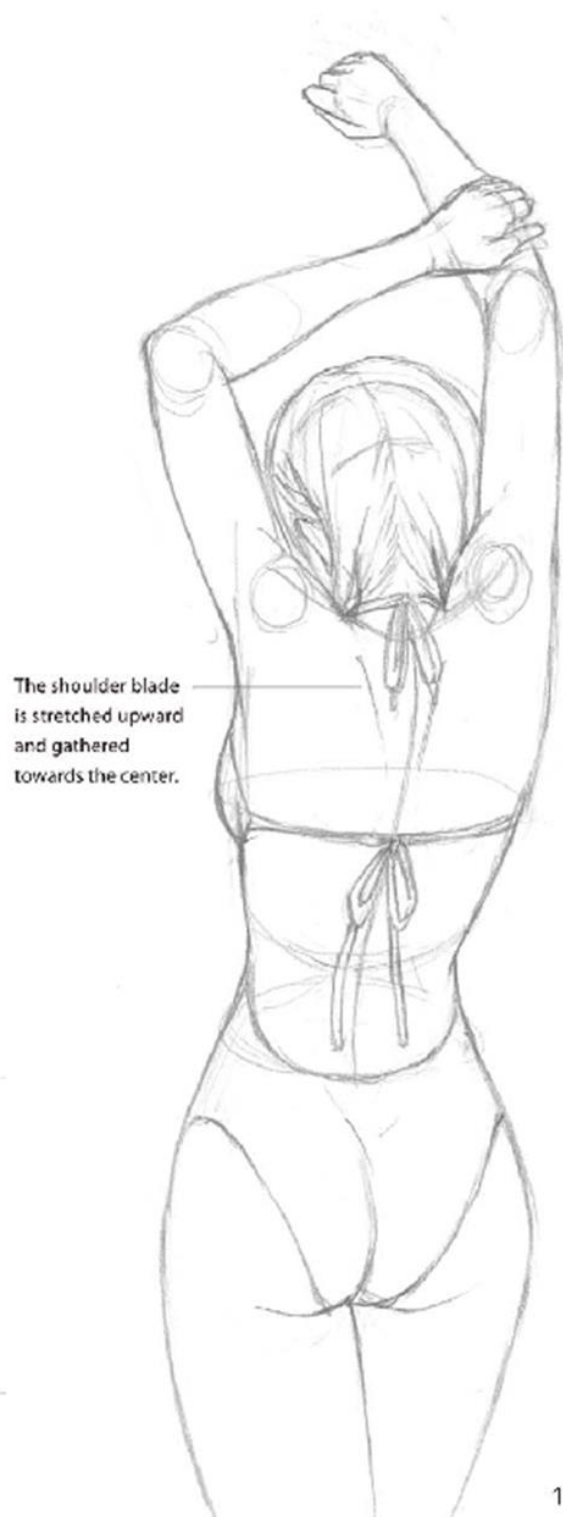
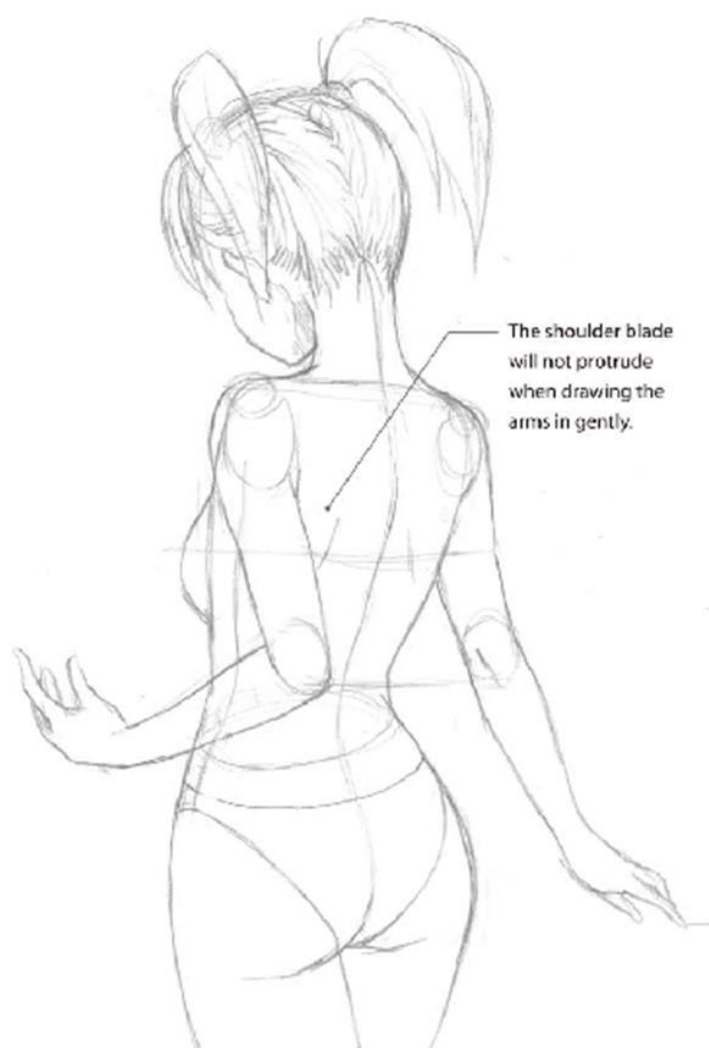
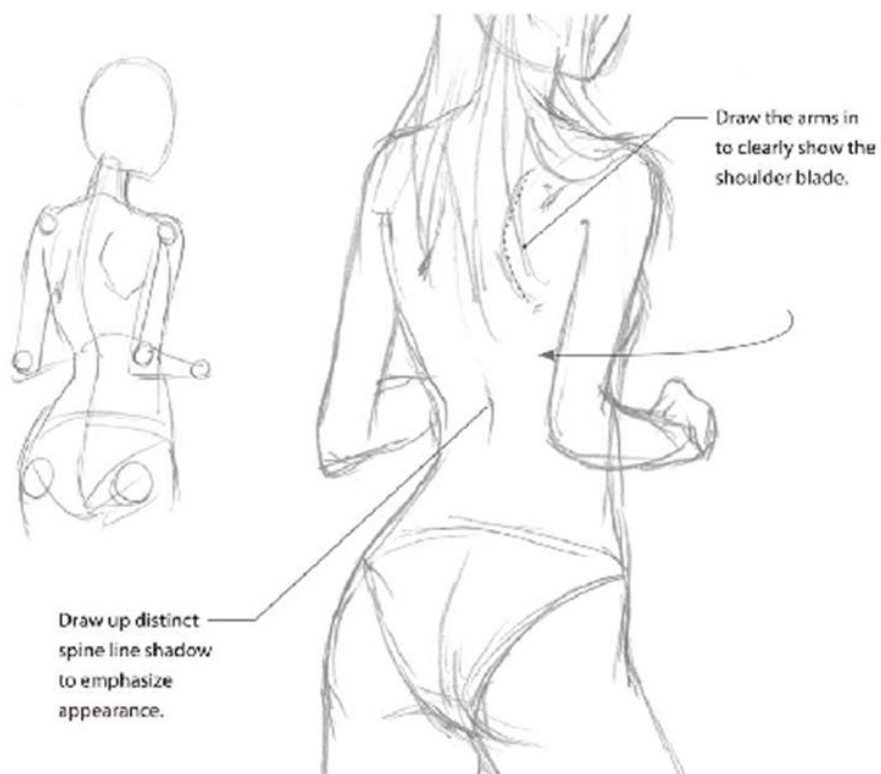
Angle of depression  
The back





# Arm movements and back revealing changes







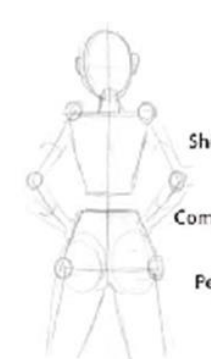
# Draw the twisting, turn-back and bending movements

The key to display a flexible waist lies in the '<' shape.

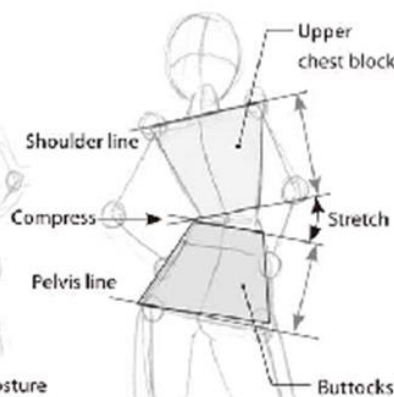
## Reverse the S shape when standing

Draw up the spine line to fix the posture. The shoulder line and pelvis line are not paralleled.

### ● Back



① Draw up the posture of standing erect.

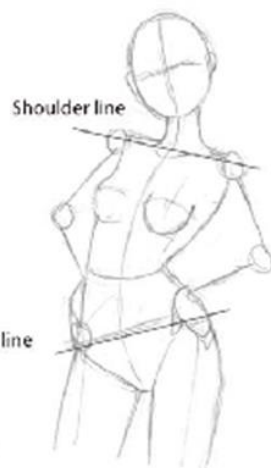


- ② Spine – centre line presents S shape.
- ③ Fix the positions of shoulder line and pelvis line.
- ④ Draw up the shapes of upper chest block and buttocks block.
- ⑤ Fix the flexible extent of waist.
- ⑥ Draw up muscle outline.

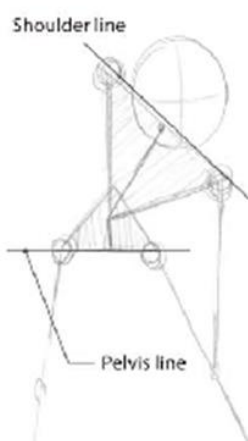
### ● Front



⑦ Draw up the appearances with muscles.



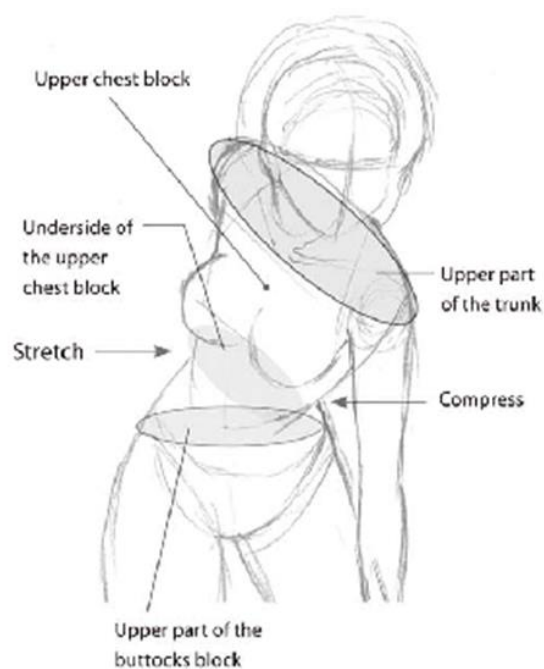
## Leaning reverse



Leaning position. The pelvis line is horizontal.



Draw up the sketch to capture the shoulder line leaning angle and relationship between shoulder line and pelvis line.



The back shares with the front in overall completion.

Compress

Stretch



Go down on two knees.

## Turning around

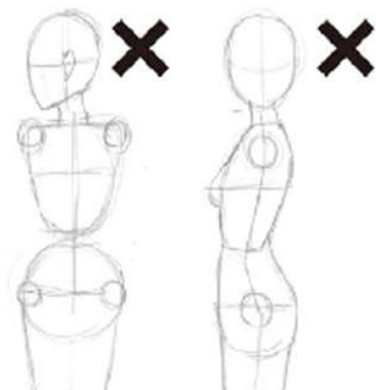
Change the directions of the upper chest and buttocks block. Remember the back's centre line cannot appear at the same time with the body's front centre line.



The body will reverse when the face turns around.

Turn the waist to the opposite direction, and the body's centre line presents the S shape.

Impossible reverse

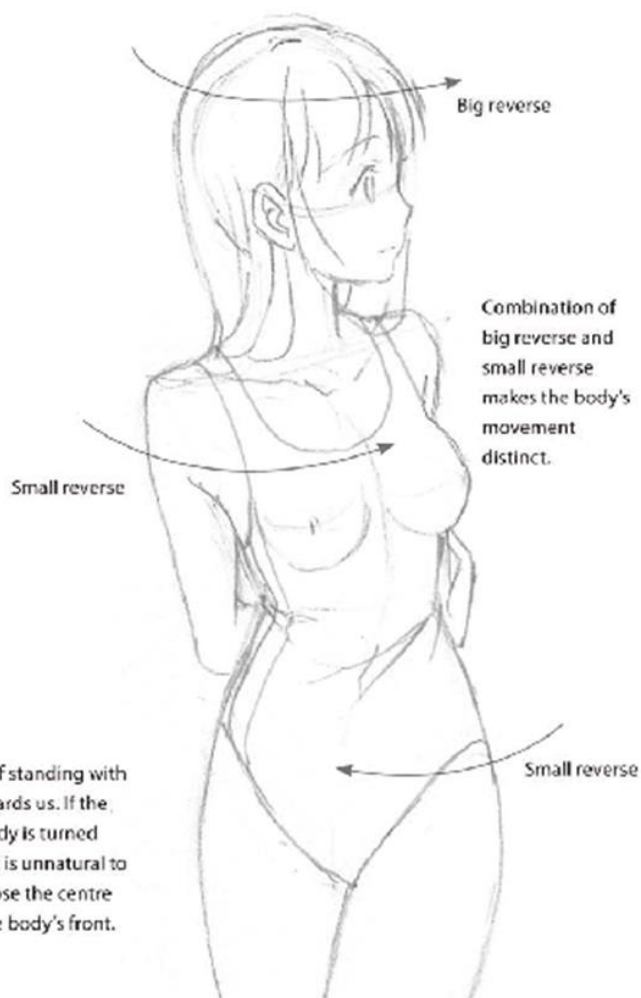


Body's front +  
face's front side

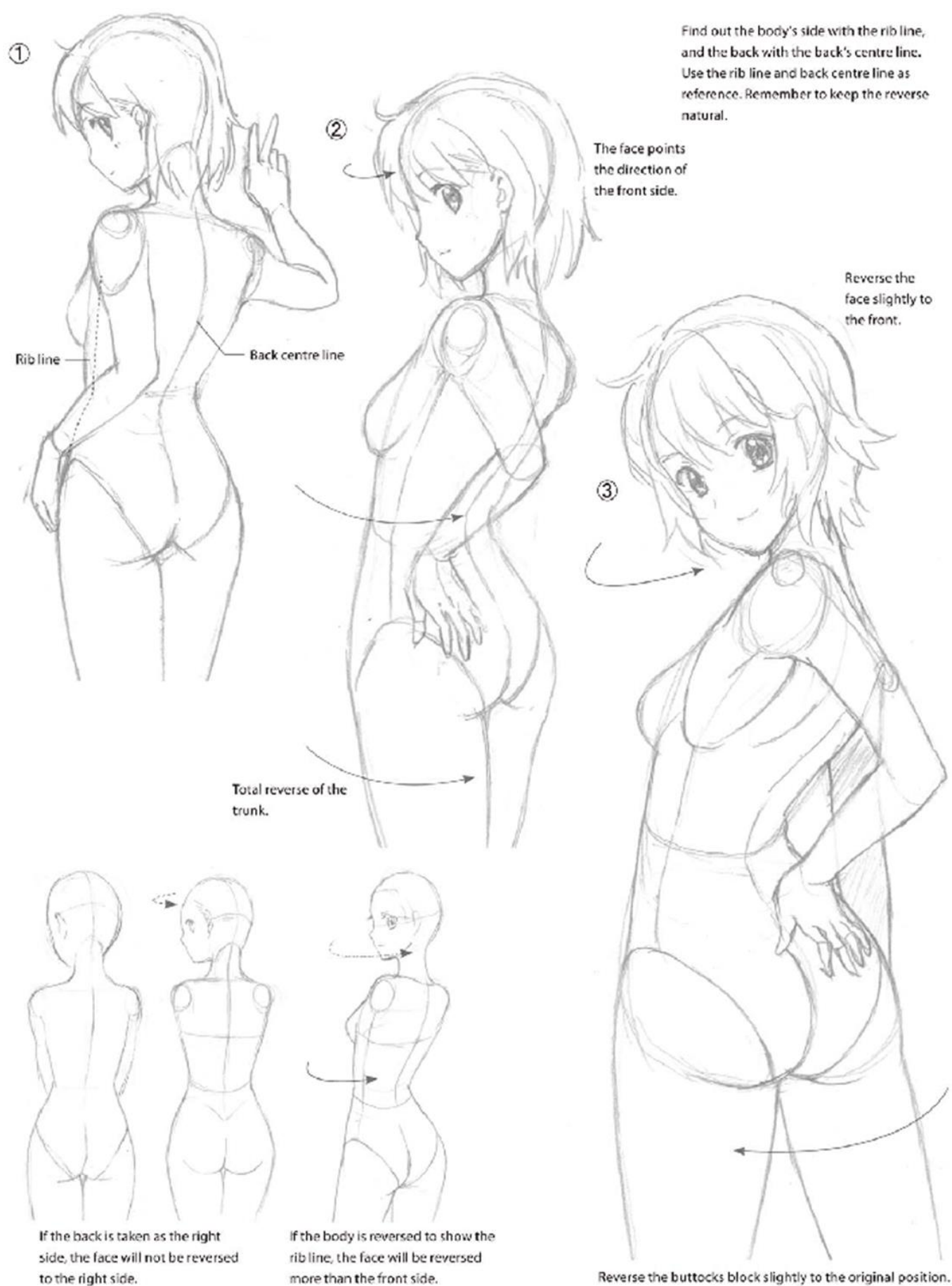
Body's front side  
+ face's front



Posture of standing with back towards us. If the upper body is turned around, it is unnatural to fully expose the centre line of the body's front.



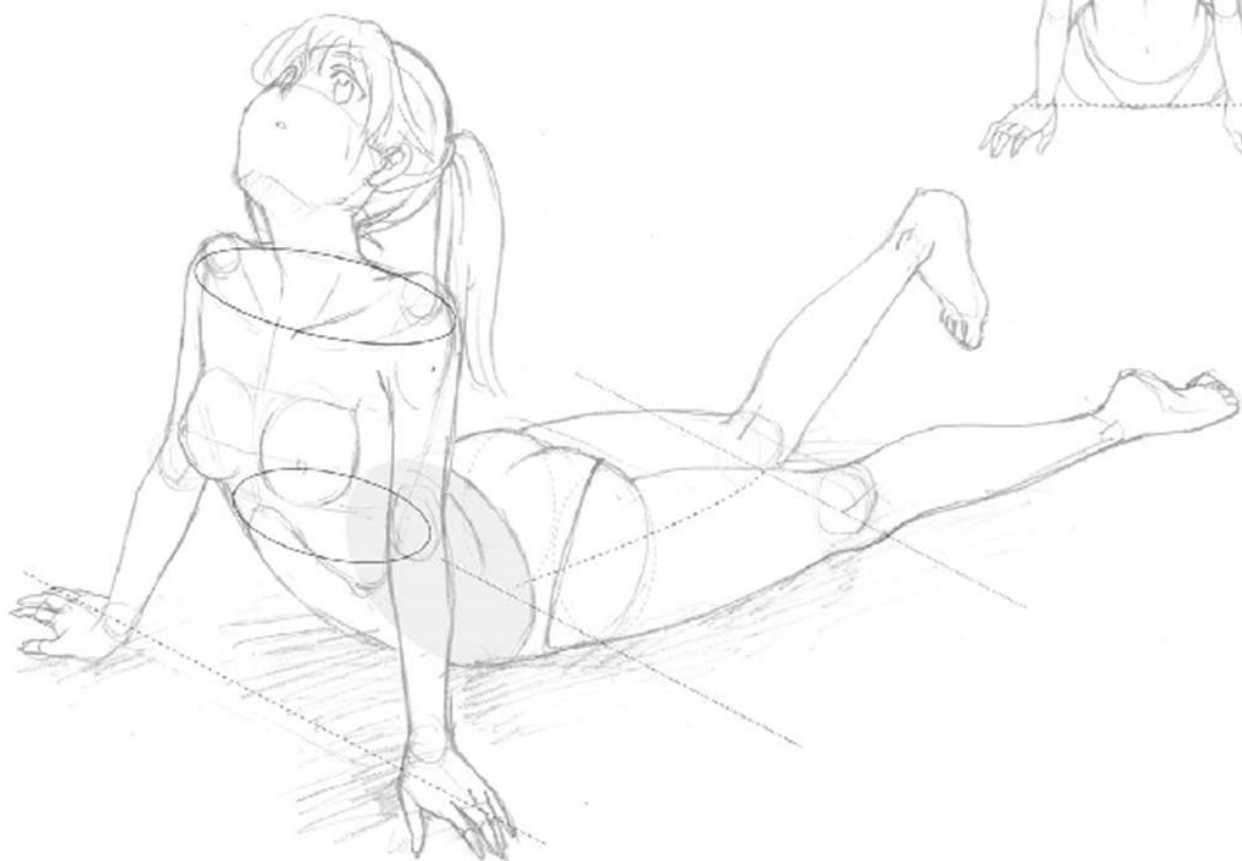
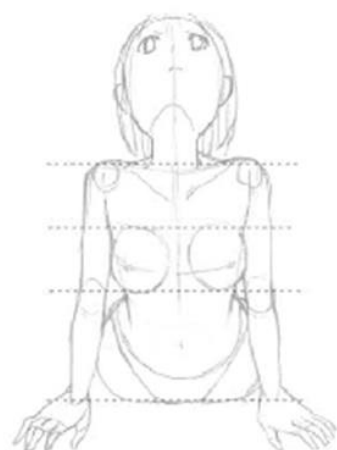
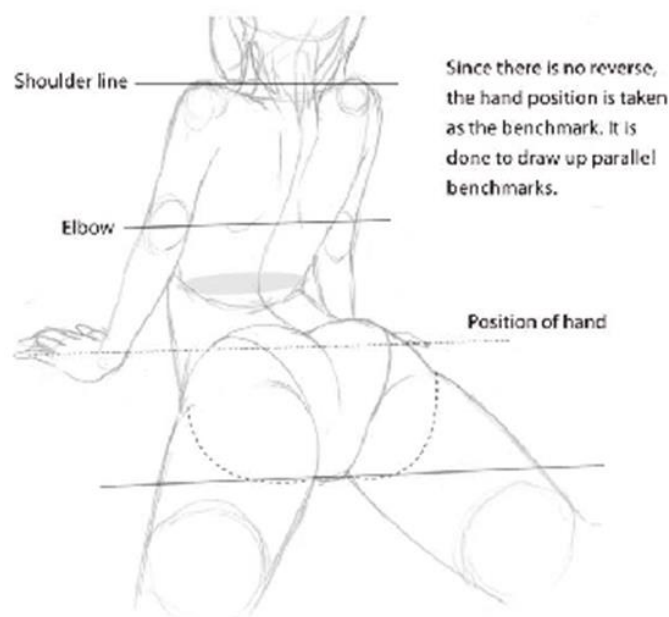
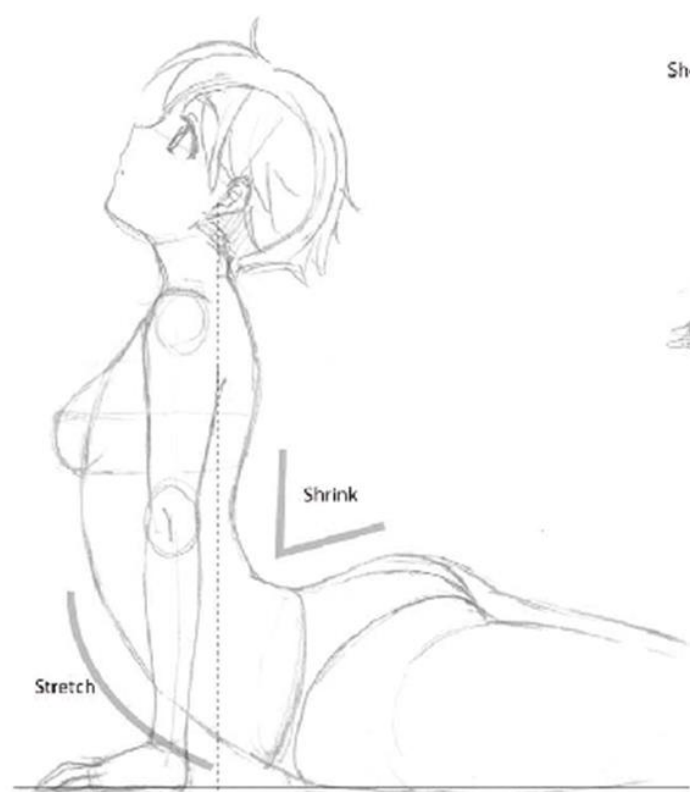
● A slight reverse of the face, trunk and buttocks block cultivates a more dynamic glancing back





## Reversed bending

Look at the stretching of the abdomen and back waist shrinking posture.



# Crouch Position

The back is expressed with round curves.



Crouch posture with chin against knees, and the back is bowed into a circular arc.

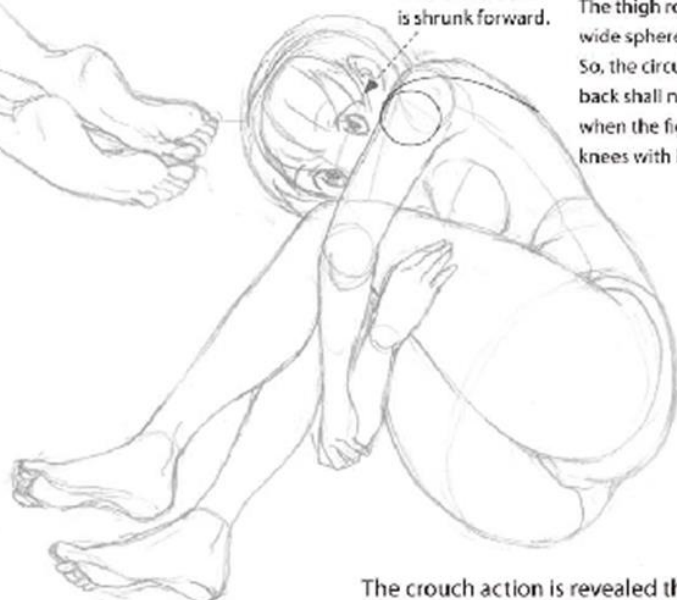


The shoulder joint is shrunk forward.

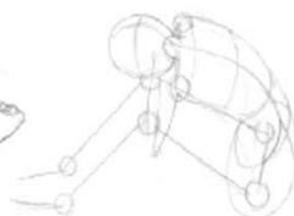
The thigh root joint has a wide sphere of movement. So, the circular arc of the back shall not be great when the figure holds the knees with hands.



Seen in the back, the buttocks are largely round.



The crouch action is revealed through stretching the back, slightly narrowing the waist, and moving the thigh root joint.



The back cannot be adducted.

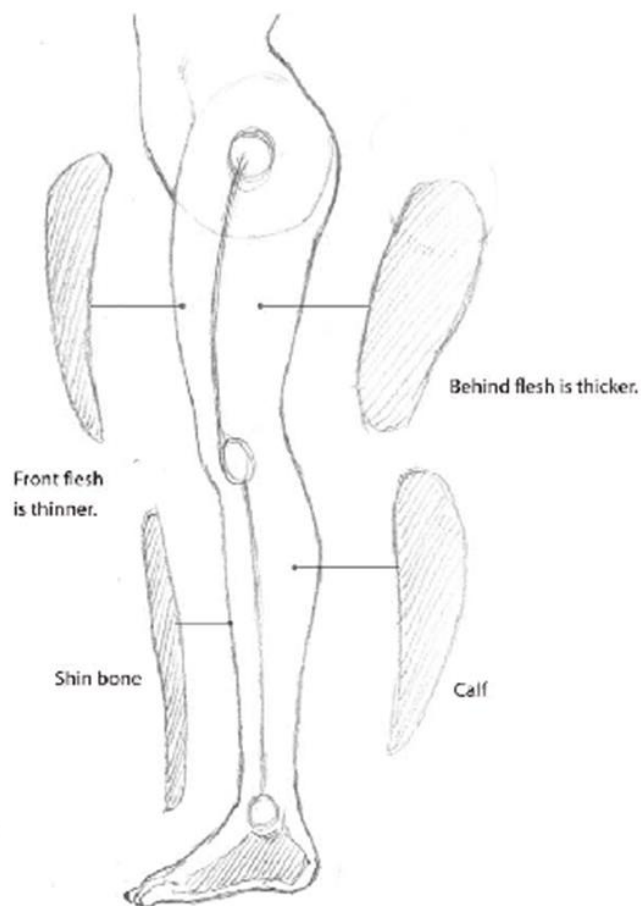
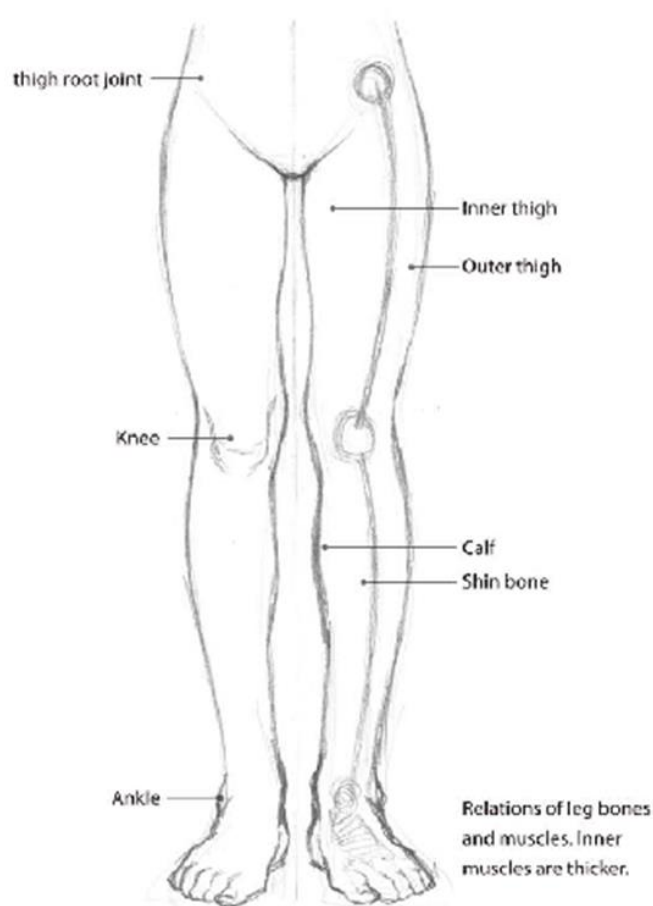
The belly is adducted.

# Draw up beautiful legs

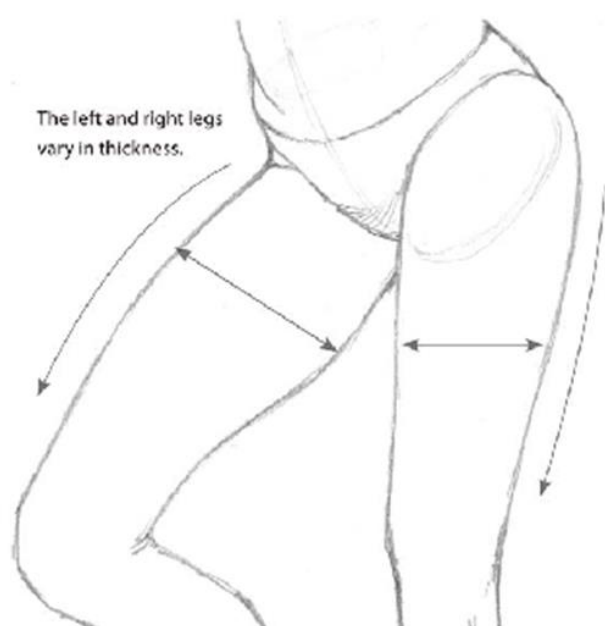
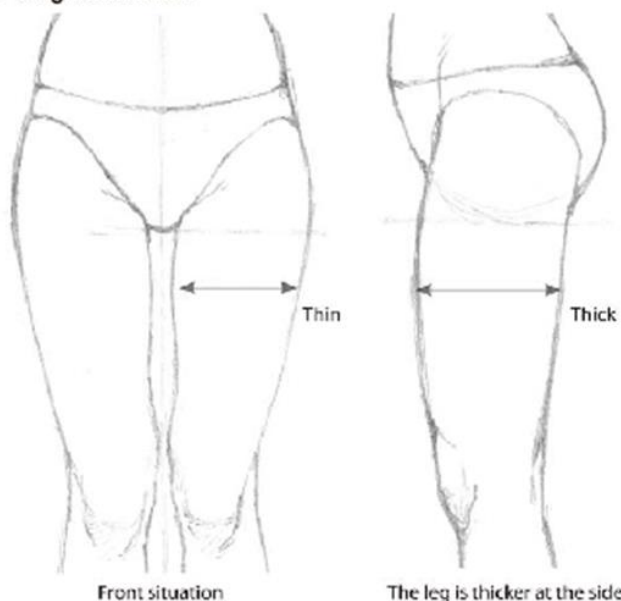
## Fix the leg line

Legs of the same figure. If the figure is observed in different angles or takes different actions, the thigh thickness will change. The contour line will also change.

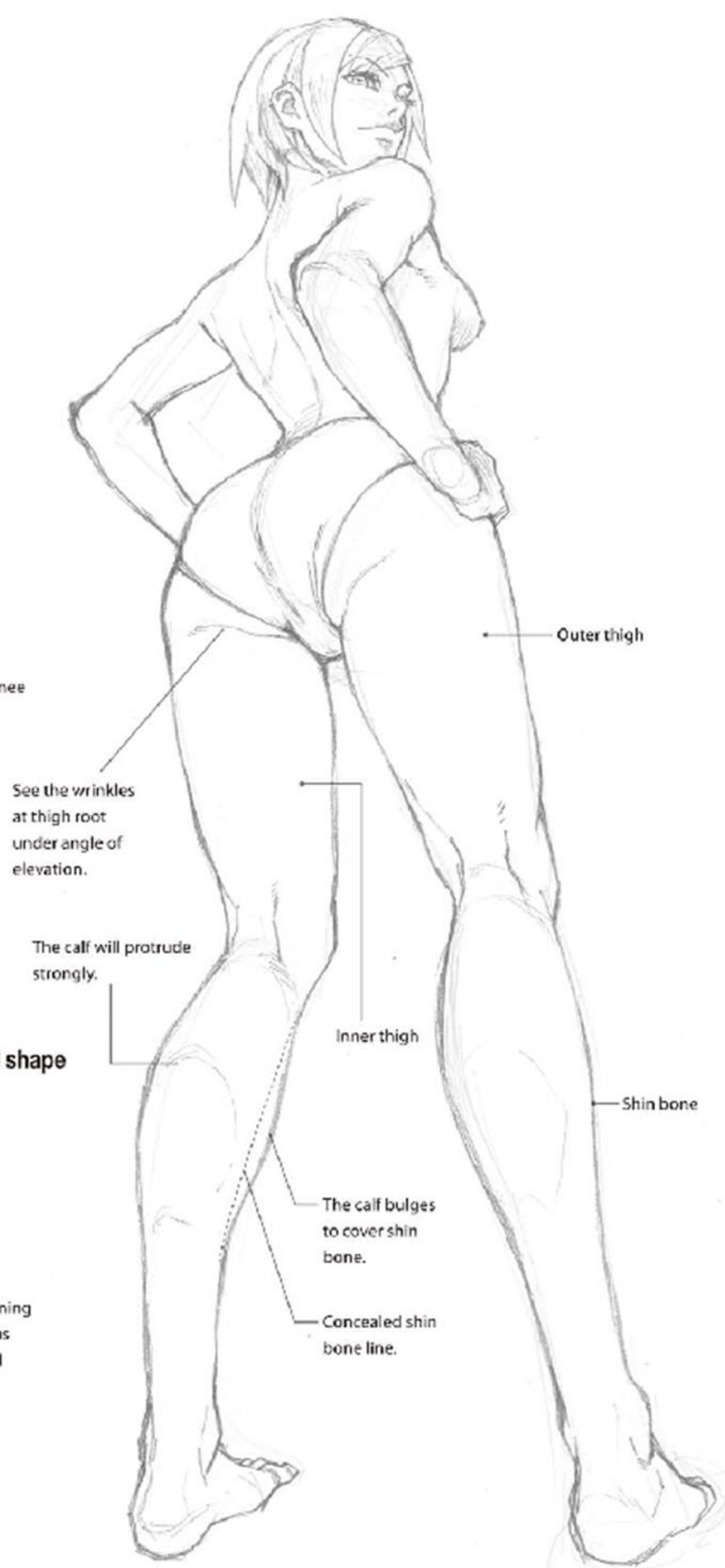
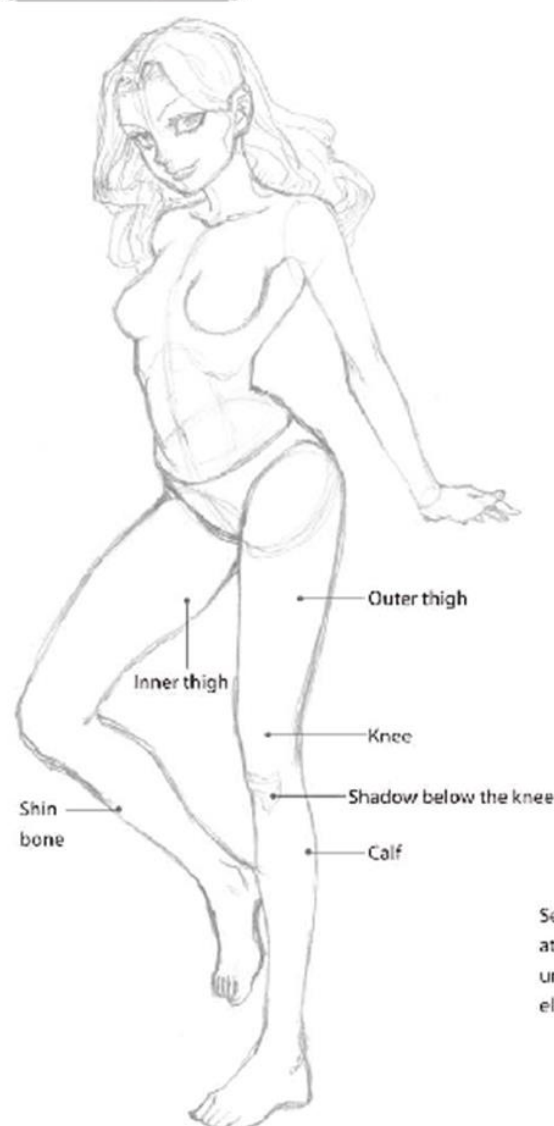
Understand the leg part names and muscle situations.



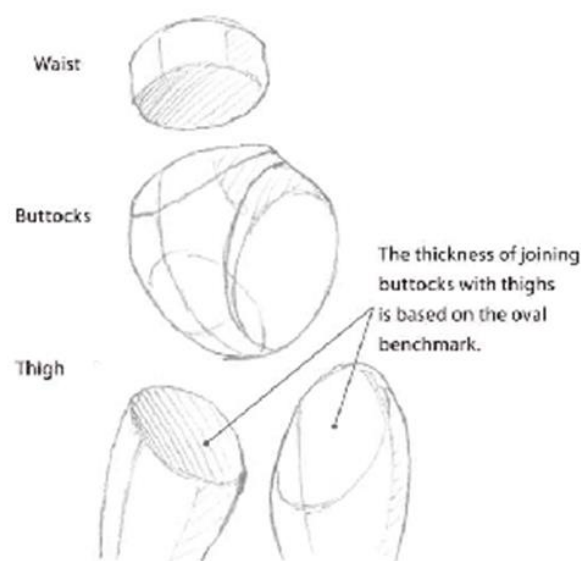
## ● Thigh thickness



Observe leg line



● Benchmark thickness (stereoscopic) is oval shape

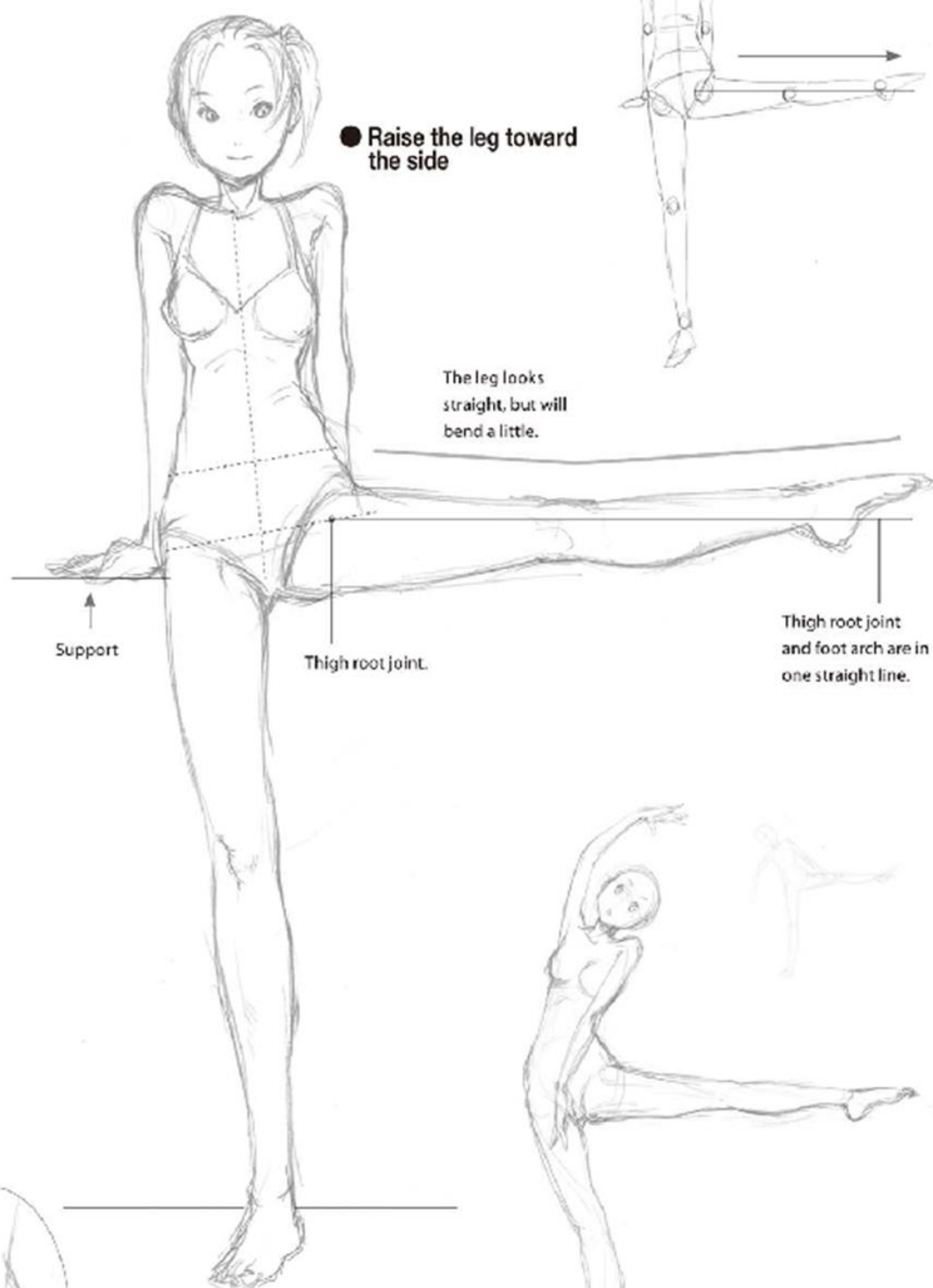




# Draw up leg movement

## Lateral movement

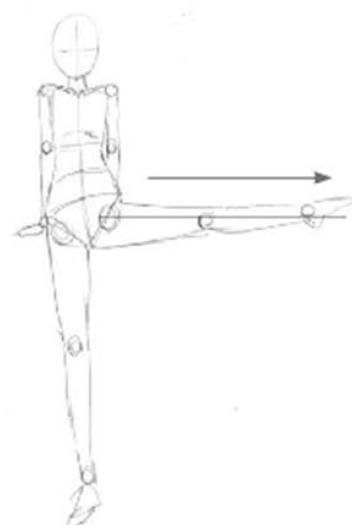
The leg joint may remain still when thigh root joint moves. The thrust comes forth from the thigh root, triggering simultaneous movement in the waist and upper body.



● Raise the leg toward the side

The leg looks straight, but will bend a little.

Thigh root joint and foot arch are in one straight line.

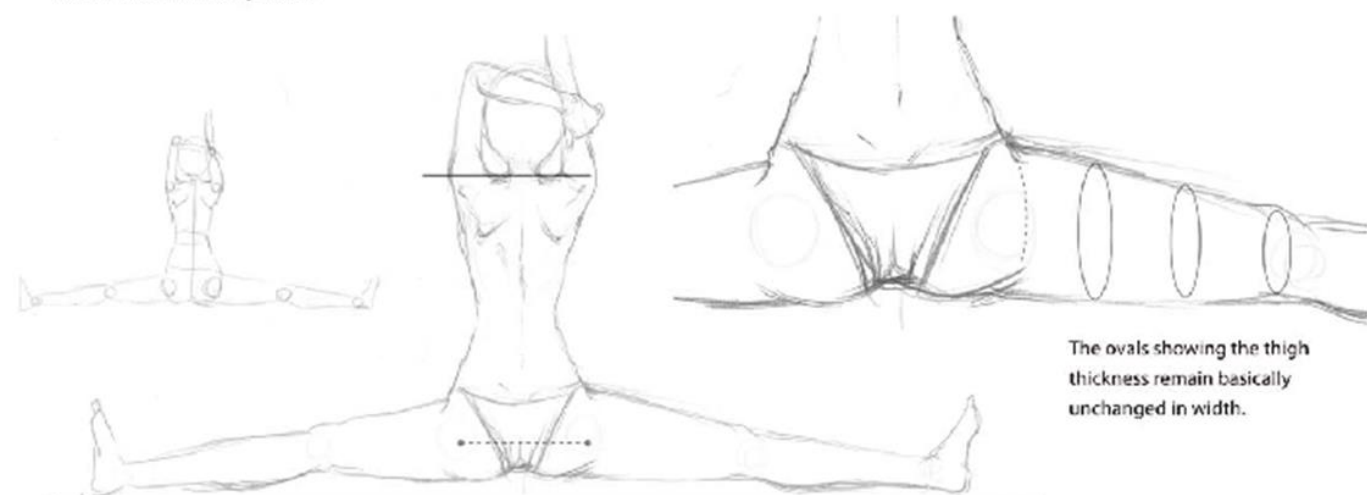
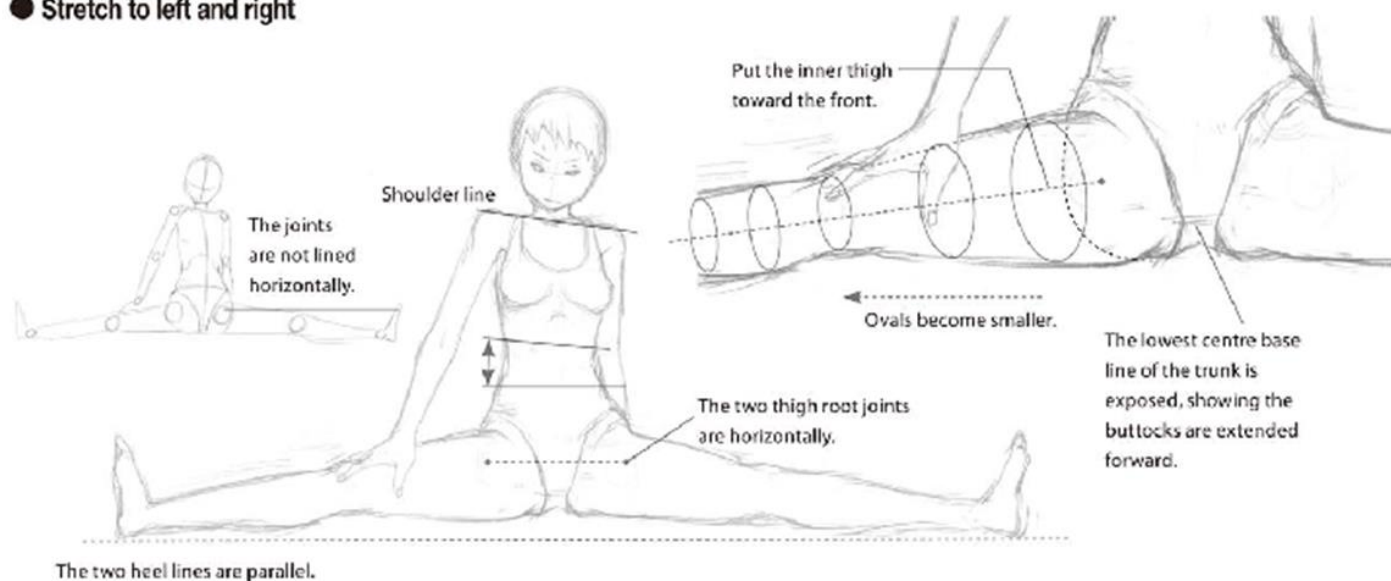


Stand on tiptoe.

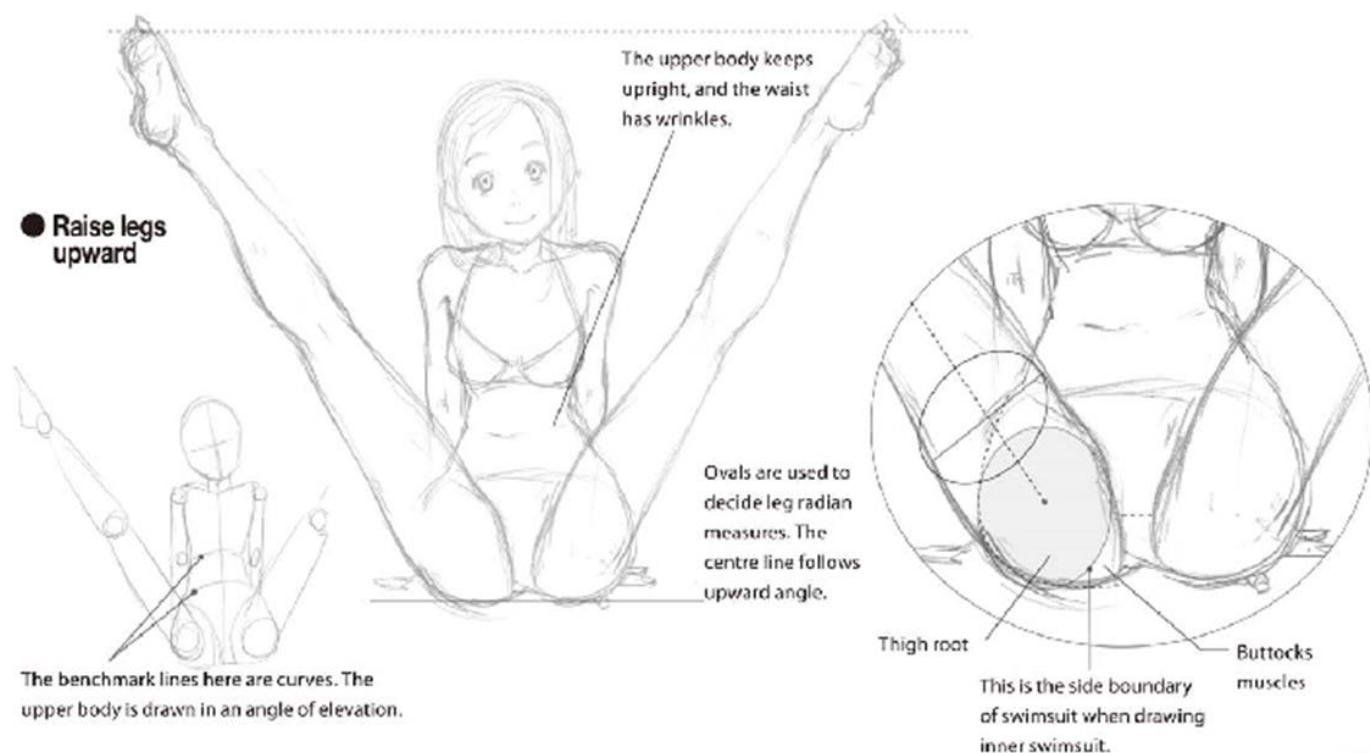


Dynamic moment. The figure stands stably though on one leg.

# ● Stretch to left and right



# ● Raise legs upward



# Kick a leg

● Front

● Back

When the leg is kicked to the highest point, the inner thigh will be extended to the maximum.

The centre line of the back will bend slightly, even if the body is kept straight.

1/2

The waist will contract inward slightly and take a "c" shape in the side of kicked leg.

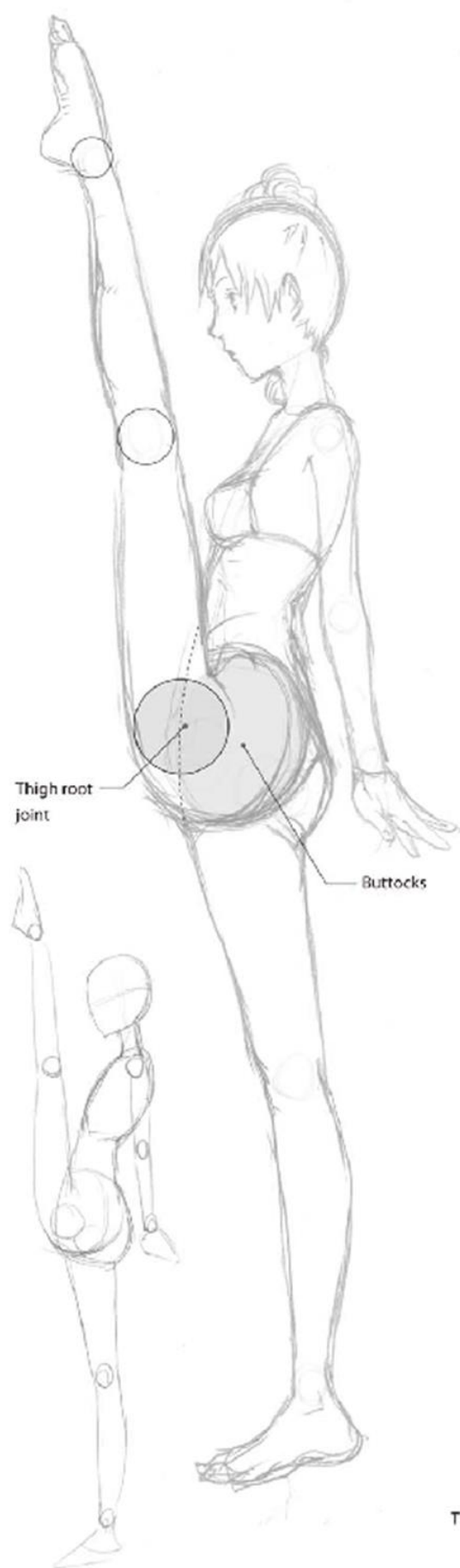
Long leg-based figure

Shrink

Stretch



● Front side

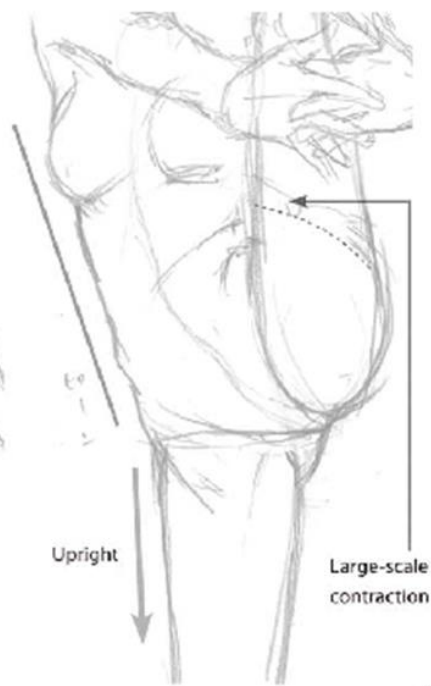


● The upper limb and leg lines will change when legs are raised in different modes.

Vertical kick



Side kick

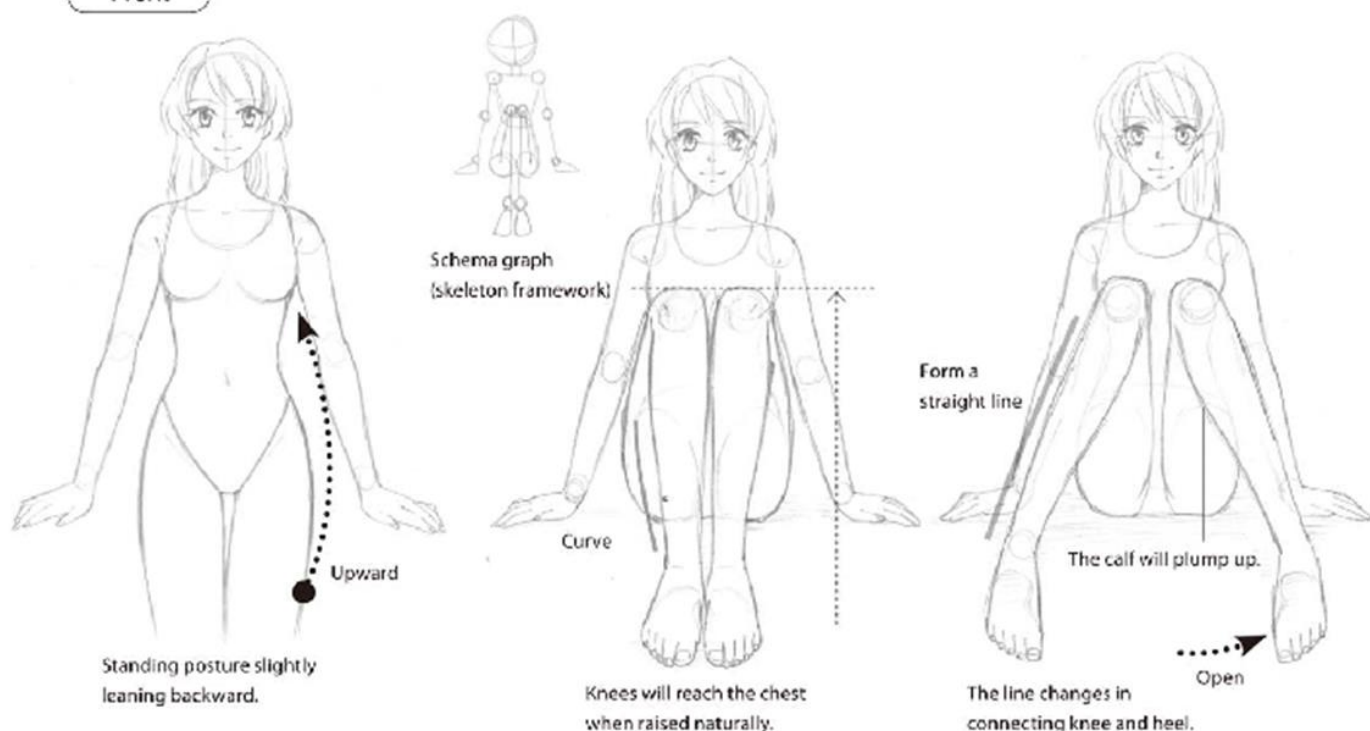




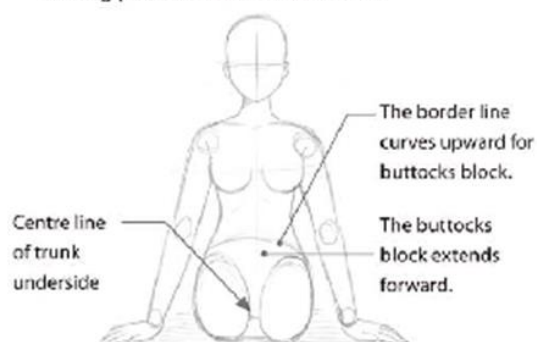
## Leg forms when seated

Front

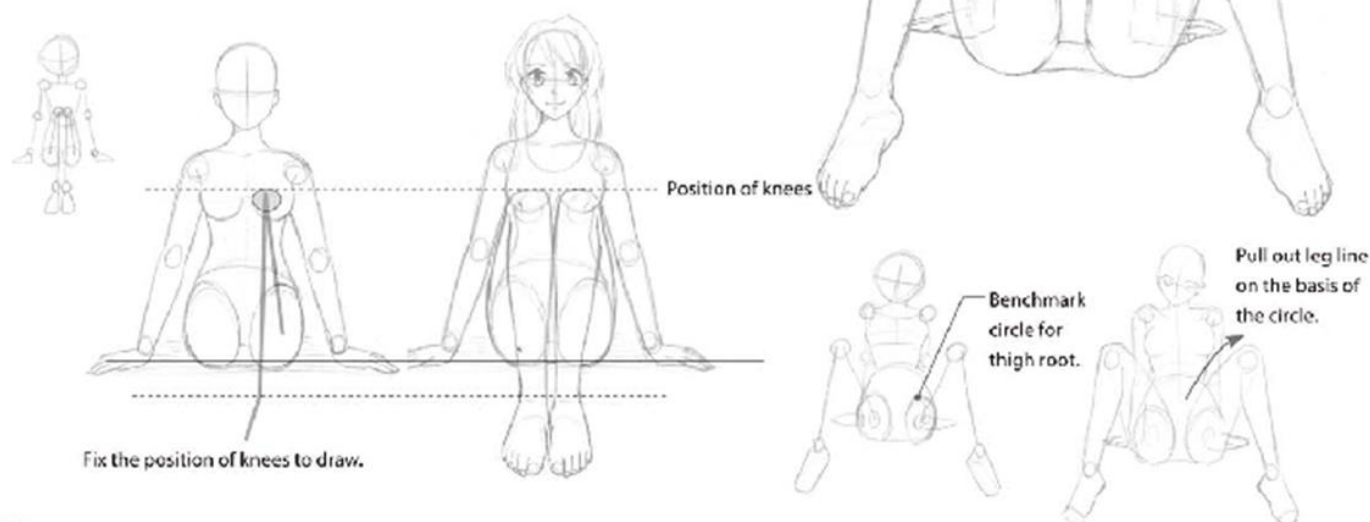
Now, let's look at how to draw legs when the figure sits down. We may draw up the schema graph first to determine posture. Pay attention to knee position and changes in thigh thickness.



Sitting posture with raised knees



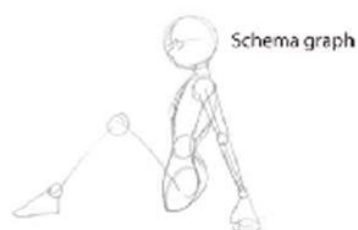
Keep knees open



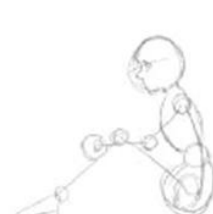
# Front side

## ● Sit straight posture

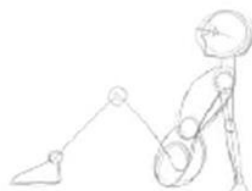
Maintain the upper body posture and change leg angle.



Reference: When the legs are opened, the inner side leg in the picture should be exposed slightly.



The body leans forward.



The body leans backward.

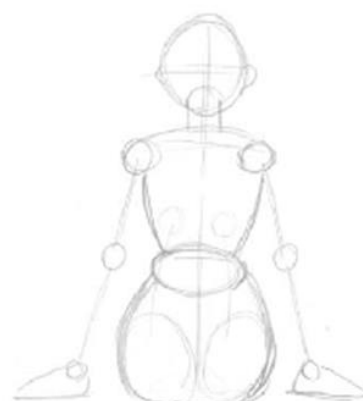
The upper body posture changes, but the leg line remains same.

# Back



Trunk

Thigh root



① Draw up schema graph.

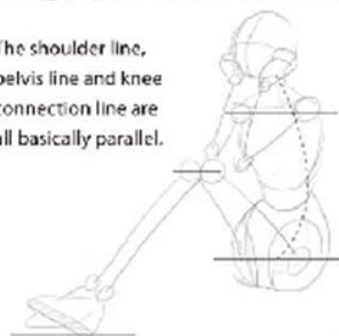


② Draw up contour line.

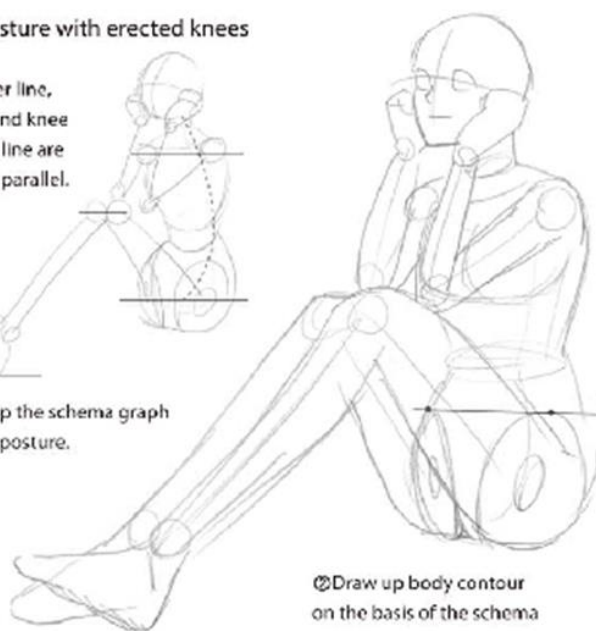
### 3/4 side

#### Sitting posture with erected knees

The shoulder line, pelvis line and knee connection line are all basically parallel.

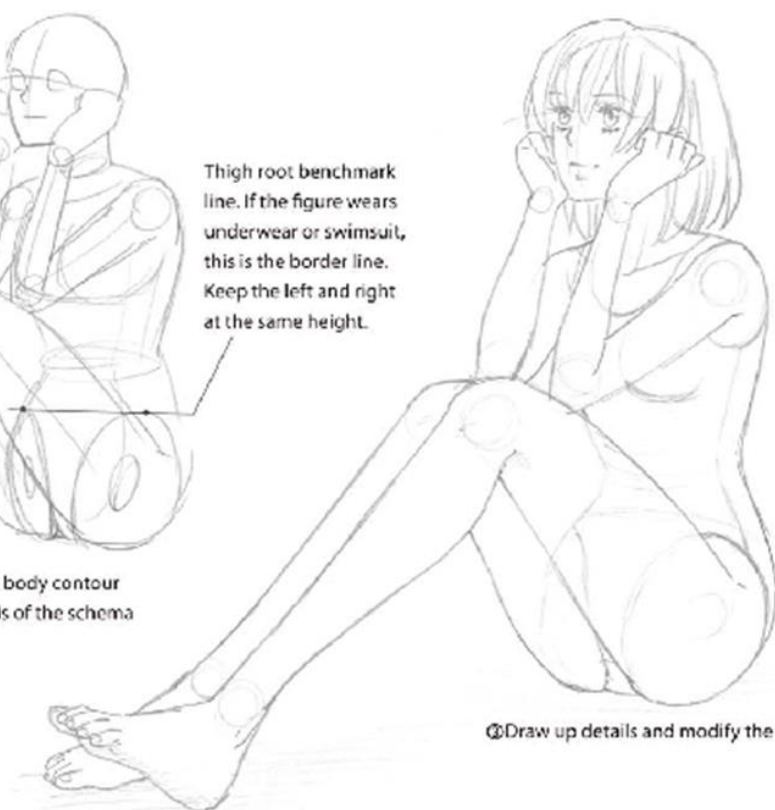


① Draw up the schema graph in sitting posture.



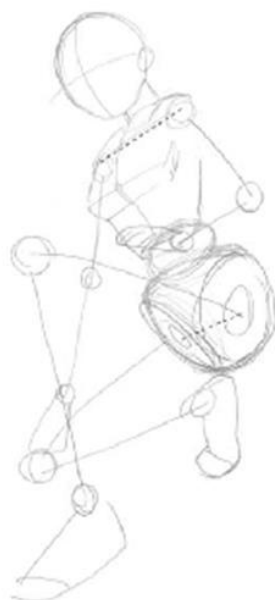
② Draw up body contour on the basis of the schema graph.

Thigh root benchmark line. If the figure wears underwear or swimsuit, this is the border line. Keep the left and right at the same height.



③ Draw up details and modify the lines.

#### One knee-down posture



① Draw up the schema graph of the posture. Pay attention to the trunk and its joint with thighs.



② Draw up the body contour to enhance body stereoscopic expression.

The knees are round.

Draw the shin bone line straight.

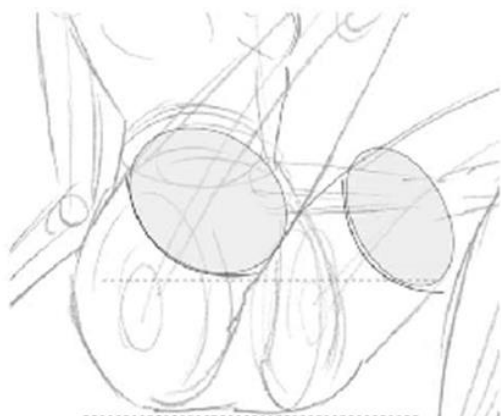


③ Draw up details and modify the lines.

# Backward-leaning posture with one leg up



① Draw up the schema graph for the posture.



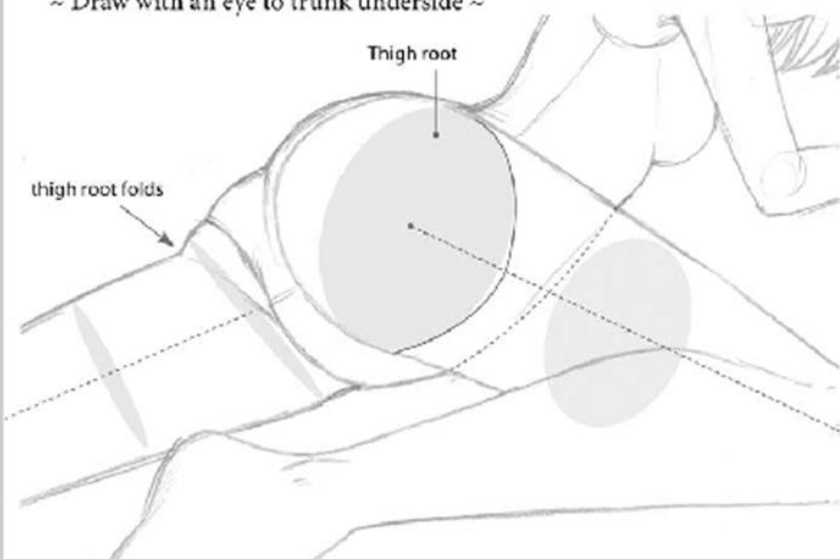
② Draw up the body contour. It is easy to draw the leg lines wrong here. So, we may draw up ovals as the benchmark, exactly like painting stockings, to facilitate the work.



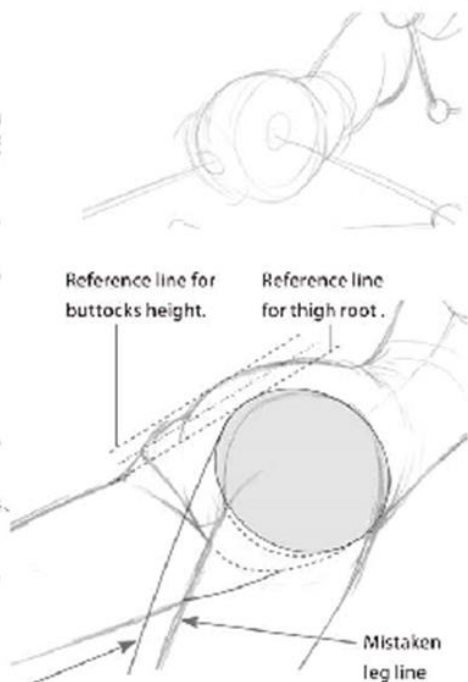
③ Modify the lines and complete drawing.

## Forward and backward movement of legs

~ Draw with an eye to trunk underside ~



In drawing up human body, we need to bring its stereoscopic feeling through thickness. The trunk underside is an element often neglected in revealing body thickness.





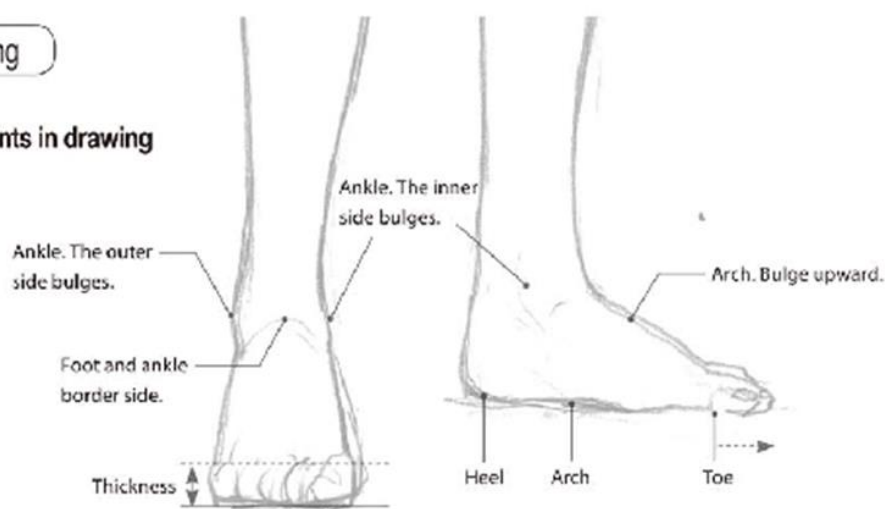
## Draw up feet

Capture the triangle and toe block.

### Feet shape when standing

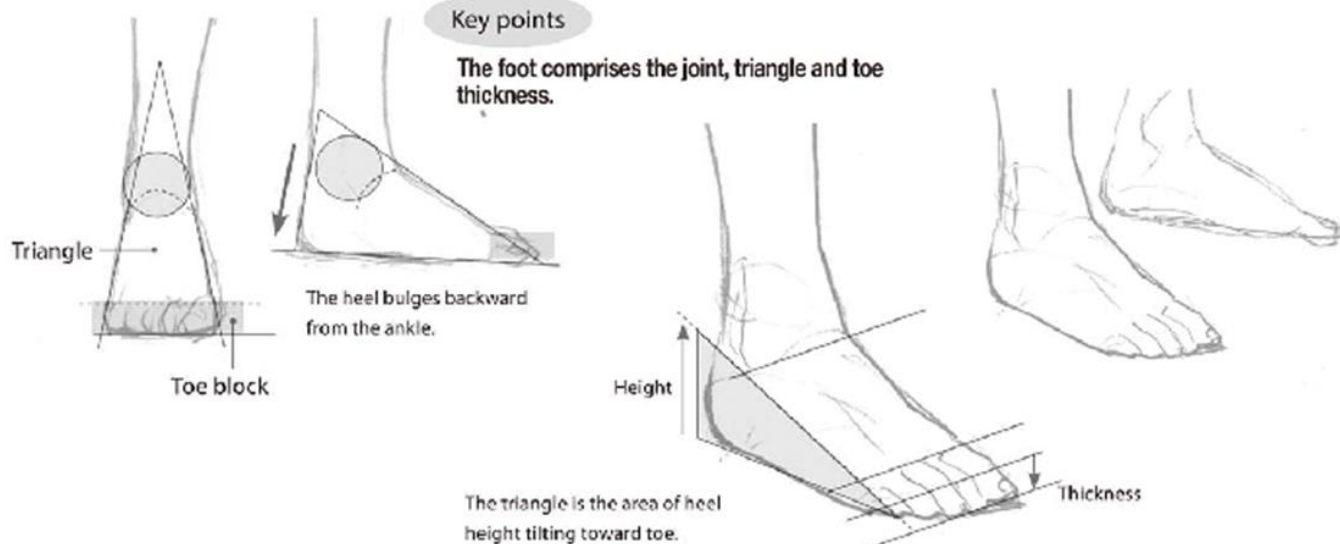


#### ● Key points in drawing



#### Key points

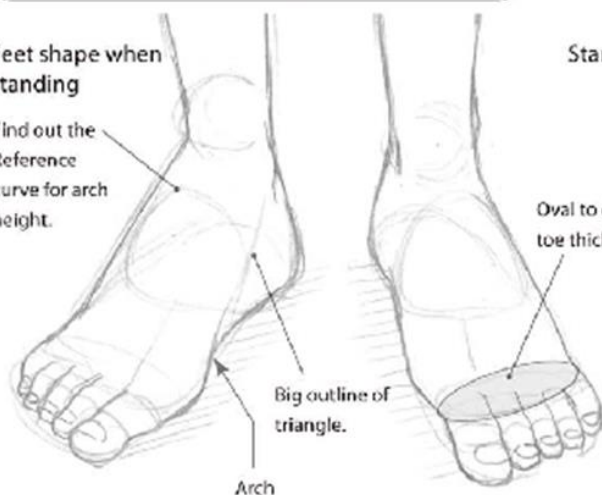
The foot comprises the joint, triangle and toe thickness.



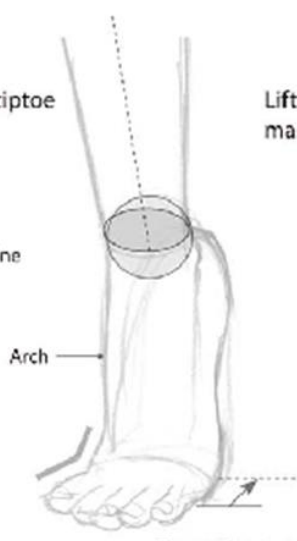
### Learn the basic technique to draw feet

#### Feet shape when standing

Find out the Reference curve for arch height.



#### Stand on tiptoe



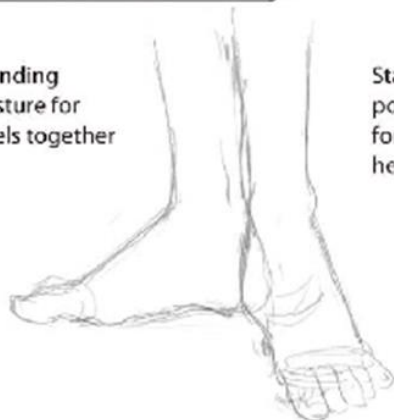
#### Lift up the foot to march forward



## Feet for various standing postures



Standing posture for heels together



Standing posture for raised heels



Back of foot in walking



Bending curve



Foot shape when marching forward



Though seen in same angle, but ...

Curve stressing arch bending



Do not emphasize bulging ankle.

Stress the gracefulness of the female feet.

Stress bulging ankle. Embody skeleton contour to enhance sense of existence.

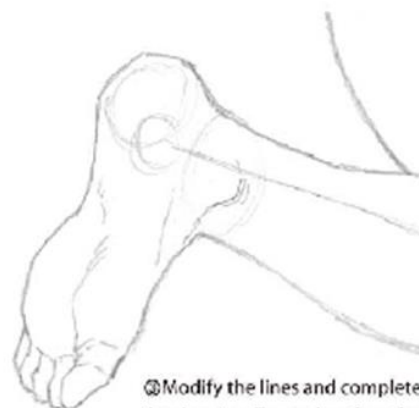
## Sole of the foot



① Draw up fundamental framework.



② Sketch the contour with thick lines. Remember transitions in drawing curves.



③ Modify the lines and complete the drawing. Toes other than the big toe are basically the same.

# Four body types

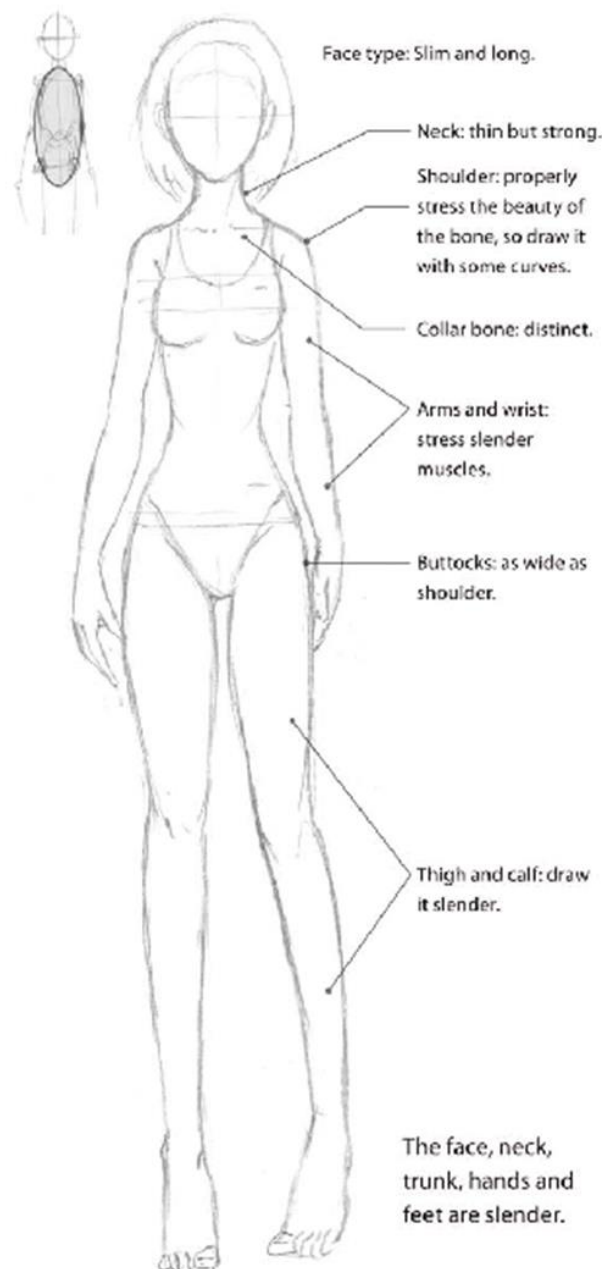
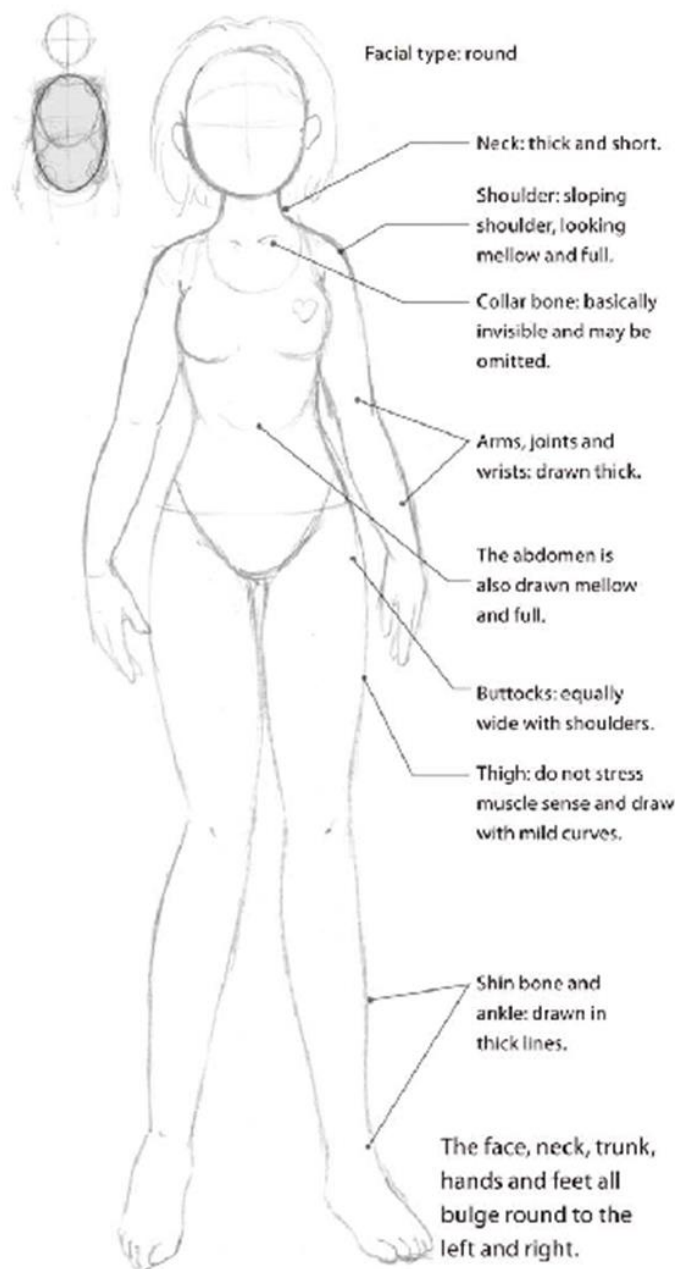
The figures' bodies may be separated into four types according to the skeleton and muscle expression modes. Different body type brings different personality inclinations and behavior modes of the figures. All the cartoon figures are essentially expressed on the basis of the four body types.

## Circular type: abdomen

It looks mellow and full on the whole.

## Slim type: head

The figure looks slim and tall. The neck is strong, though it looks slender.



This type of figure is perceptual a gourmet and fond of talking.

- The figure looks chubby, a sunshine girl.
- The figure is a girl of feeling, who loves gourmet and chat best.
- If she feels hungry, she will be low in spirits.
- Acts according to her own preferences. Does not think too much about anything. Always an easy going person.
- Has a good memory, sensitive, and follows her heart.
- The image color is a bright color, such as red and pink (because it looks pretty).

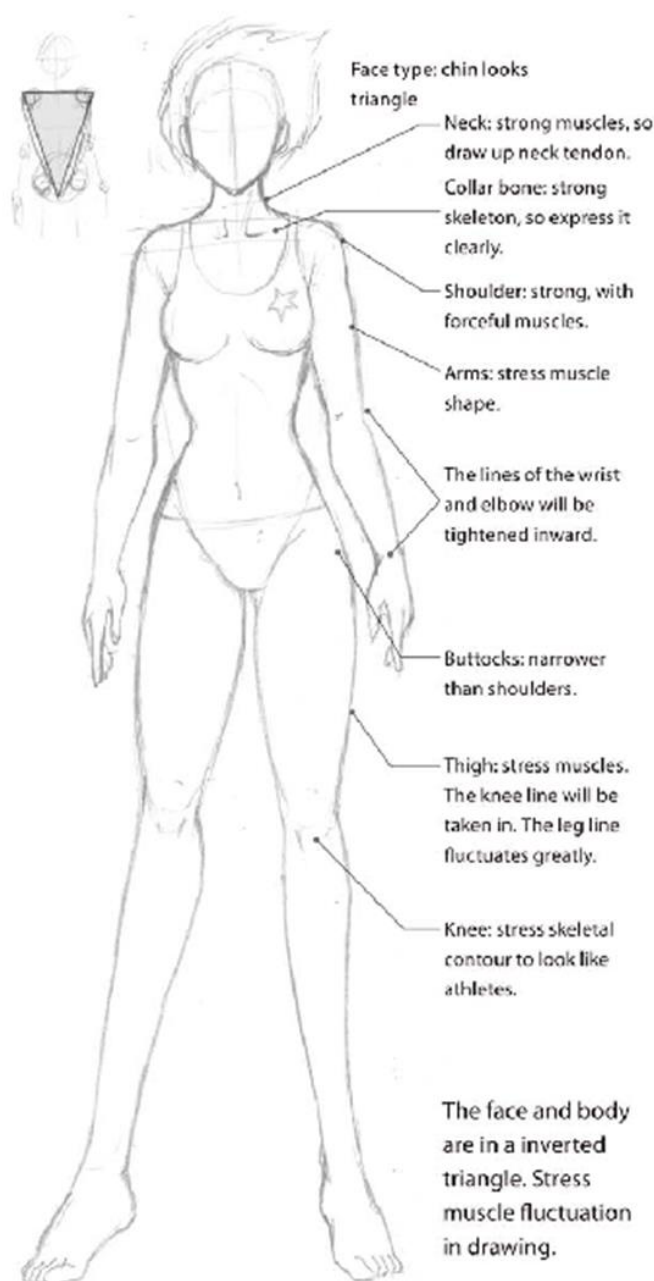
This figure belongs to the thoughtful type  
They are wise but slightly weak in actions

- Slender looking
- Looks dull because of pondering
- Logical in thinking, planning, imaginative. But they often end up with nothing definite after the thinking.
- A combination of adviser (realism) and dreamer (idealism)
- No image color (just like it)

● According to the body addition theory of Haruchika Noguchi, founder of Haruchika Noguchi Integrity, we classify cartoon figure design and expression on the basis of visual senses, to make them easy to understand and apply.

### Inverted triangle: shoulders

Feeling like an athlete.

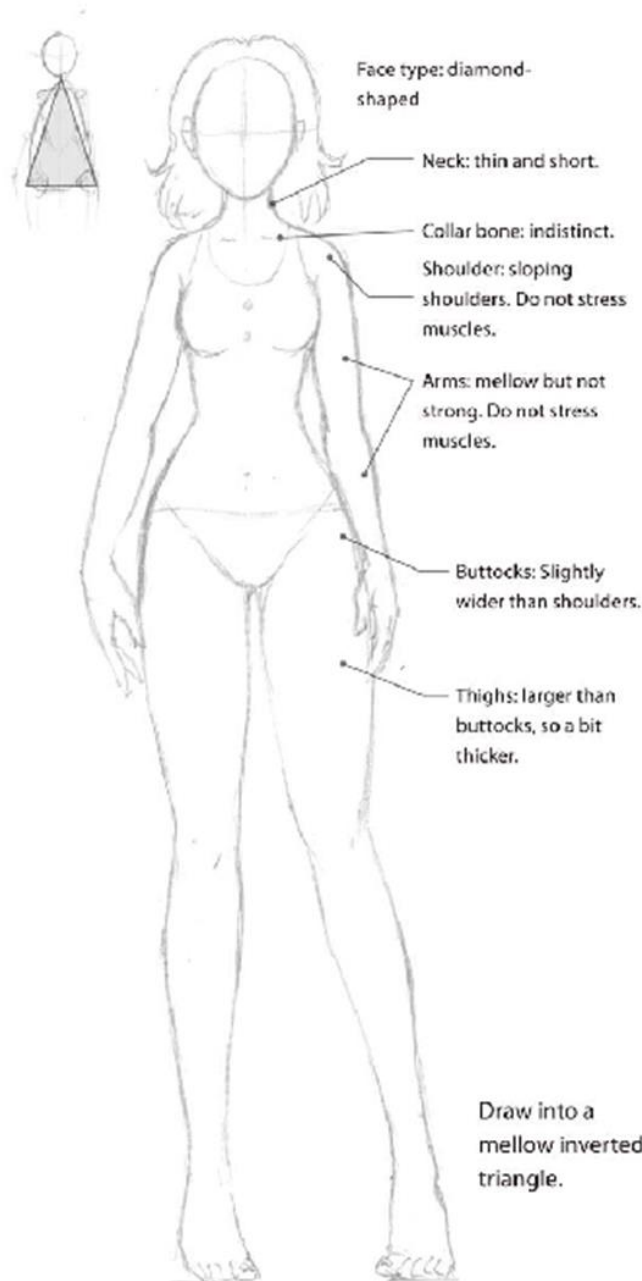


This figure is the athletic type  
Thinks rationally

- Inverted triangle with wide shoulders and narrow buttocks.
- Developed respiratory system and strong athletic ability.
- Analyze reasons, and gains and losses of actions theoretically. Take actions when the objective is clear.
- Sentimental sometimes, but can be cool and unfeeling towards others.
- No image color (choose the color according to objectives).

### Triangle: buttocks

Buttocks are wider than shoulders.



This figure is passionate  
She is prudent and sensitive

- Wide buttocks, inverted triangular body, and long legs.
- Steady and prudent. Acts fast when emotionally ready or decision made. Concentrated.
- Keen intuition. Grasps essence of things without thinking.
- Artists and creators fall into this type. They are slender and yet with destructive explosive forces.
- Good at caring for others, with a maternal instinct.
- The image color is grey or black (act with intuition).

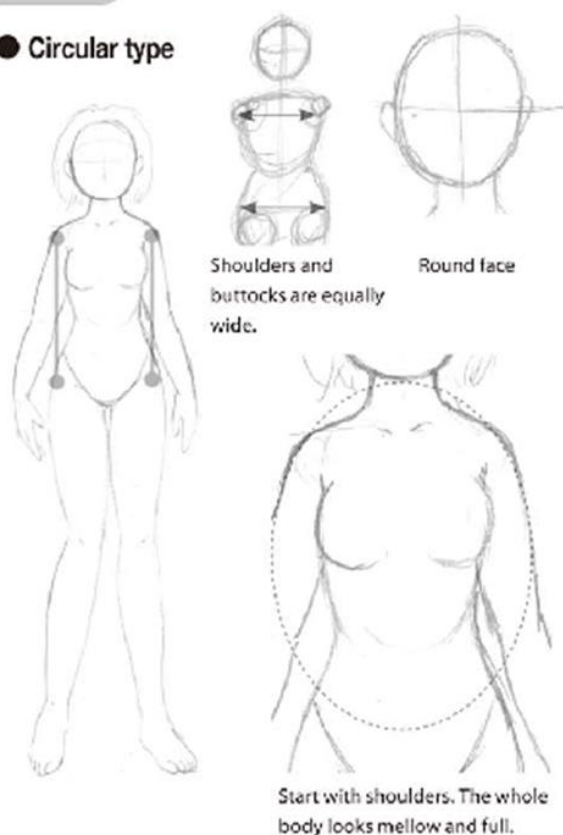


# Distinguishing basic features

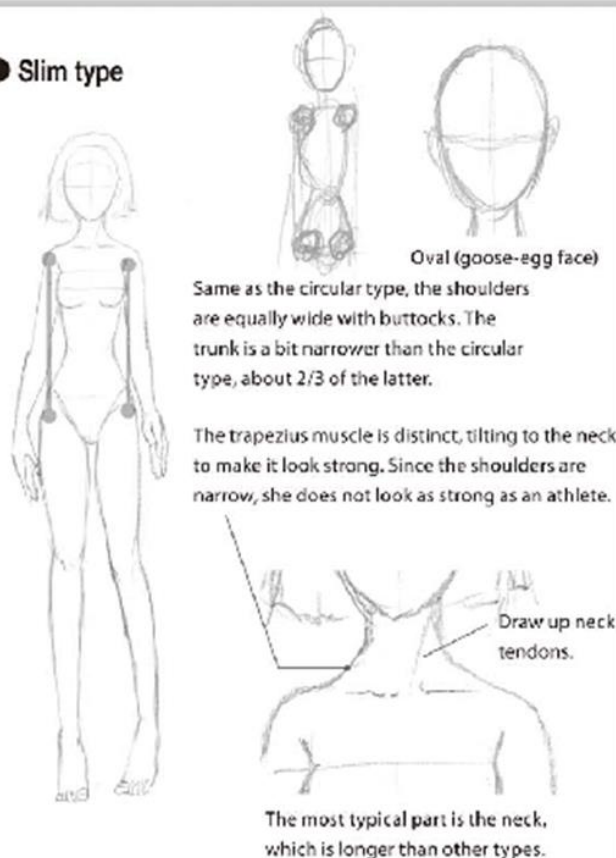
Grasping bodily form features of all figure types

## Front

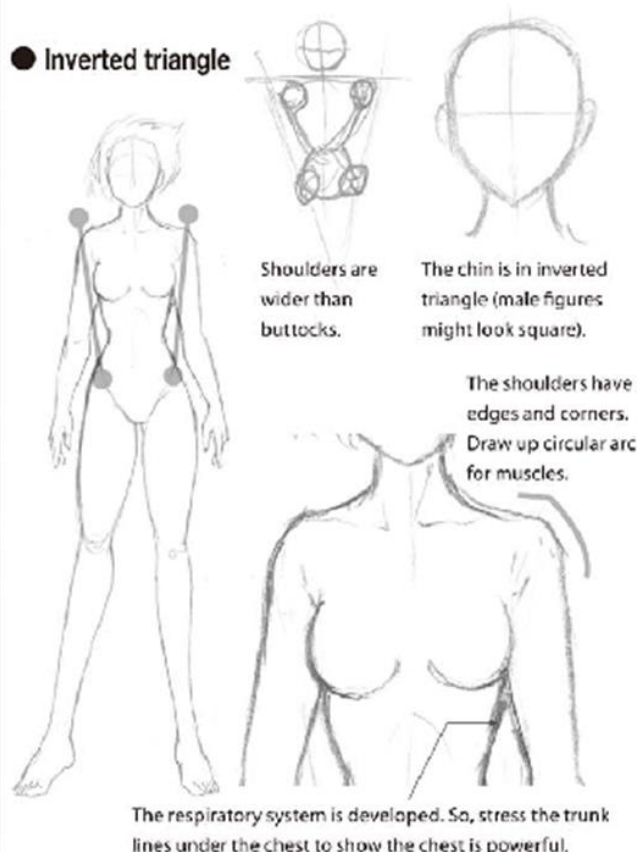
### ● Circular type



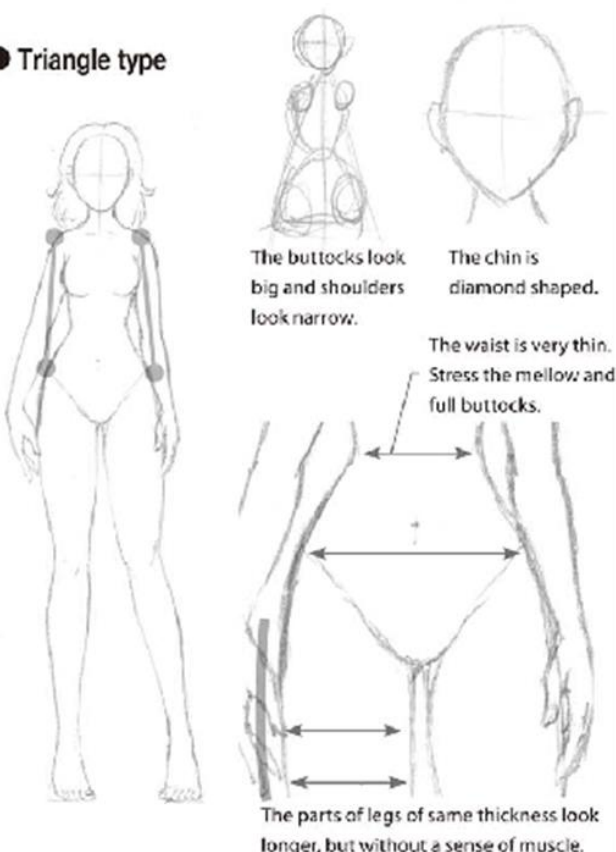
### ● Slim type



### ● Inverted triangle

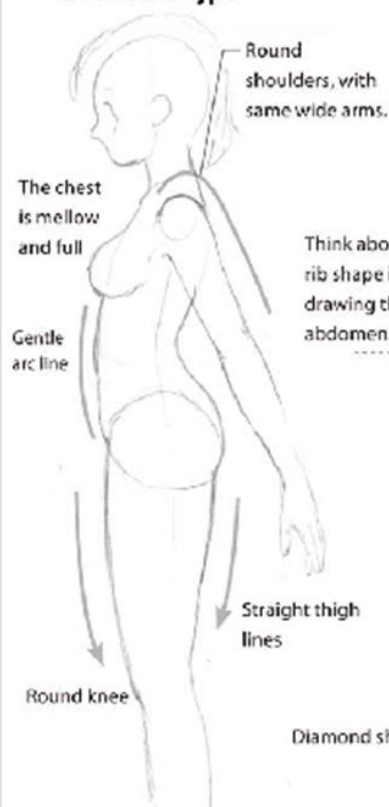


### ● Triangle type

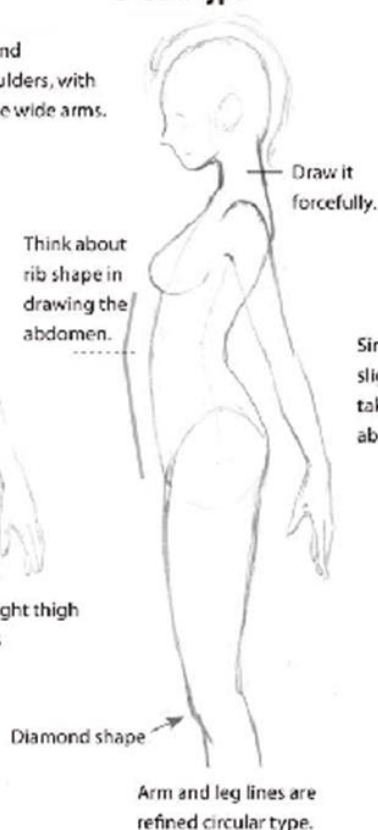


## Front side

### ● Circular type



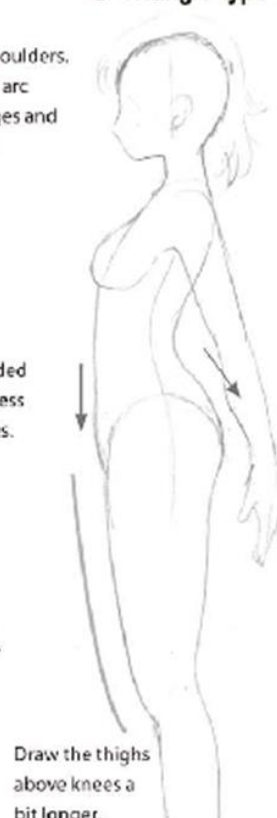
### ● Slim type



### ● Inverted triangle type

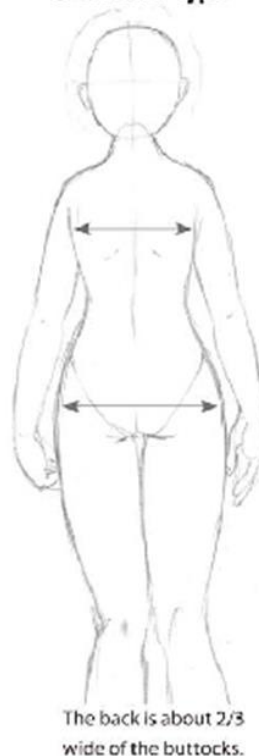


### ● Triangle type

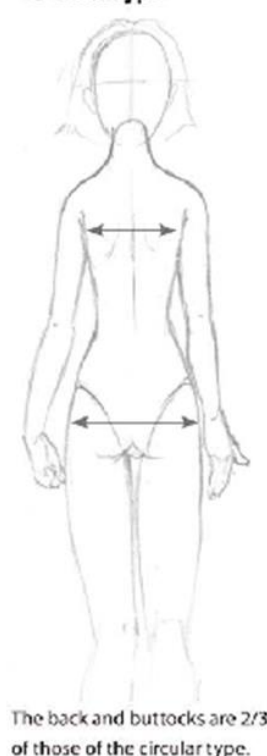


## Back

### ● Circular type



### ● Slim type



### ● Inverted triangle type



### ● Triangle type



Observe the design drawing to learn the relationship of shoulder and buttocks width. Draw them according to the adept style (accustomed style).

3/4 side

Benchmark body type proportion. Base the trunk on inverted triangle and buttocks on the circular type.

### ● Circular type

### ● Slim type

Abdomen: Lines bulge slightly.

Apply straight lines to embody thick and fat senses.

Do not stress the trapezius muscle.

Pay attention to the arc radian.

With arc

The abdomen lines will not bulge.

The neck is thin. Use adducement curves to stress thin neck.

Draw the figure with sense of straight lines.

Without any arc

Grasp the lines for trunk thickness.

Sketch  
Pay attention to draw up mellow and full trunk.

Sketch  
Pay attention to draw slender arms and legs and thin trunk.

# ● Inverted triangle

# ● Triangle type

The shoulders are drawn with edges and corners.

The collar bone must be drawn clearly.

It must sink.

Be aware of the ribs. Draw them properly with straight lines.

Stress the chest thickness in drawing the back contour line.

Sink slightly

Bulge outward

The lines branch off to reach the lower abdomen and reveal buttocks width.

The thigh lines are basically same with the circular type. Do not stress muscles. But leave a fat and soft impression.



Sketch  
Pay attention to expressing the skeleton and muscles in the drawing.



Sketch  
Pay attention to draw up sloping shoulder, narrow shoulder and wide pelvis in the drawing.



# Draw up movements reflecting personalities

Draw up the figure after setting guidelines.

## Various walking postures

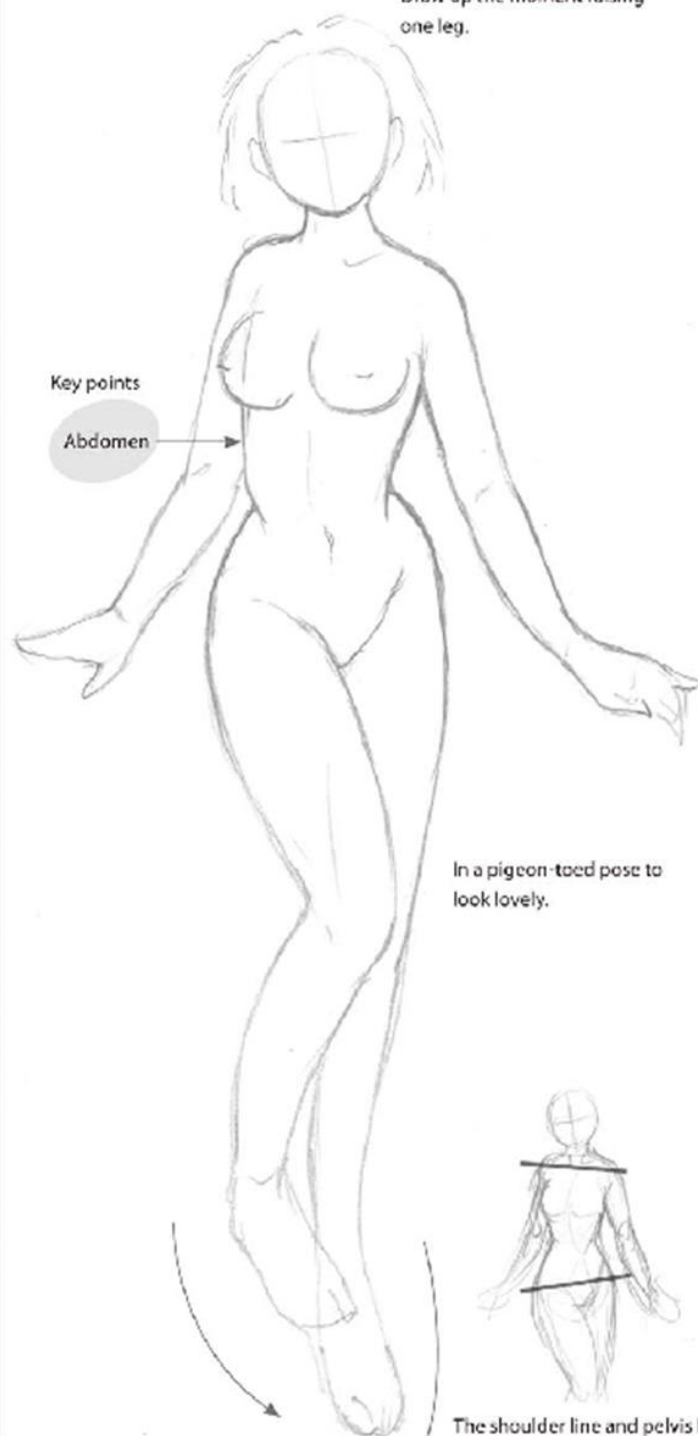
### ● Circular type

**Abdomen leads actions  
(abdomen drives actions)**

<Design concept>

The figures are bright, lively and merry.

Sway the arms, as if dancing.  
Draw up the moment raising one leg.



In a pigeon-toed pose to look lovely.



The shoulder line and pelvis line are slanted while walking forward. The slanting angle becomes bigger to express physical movement in relaxed atmosphere.

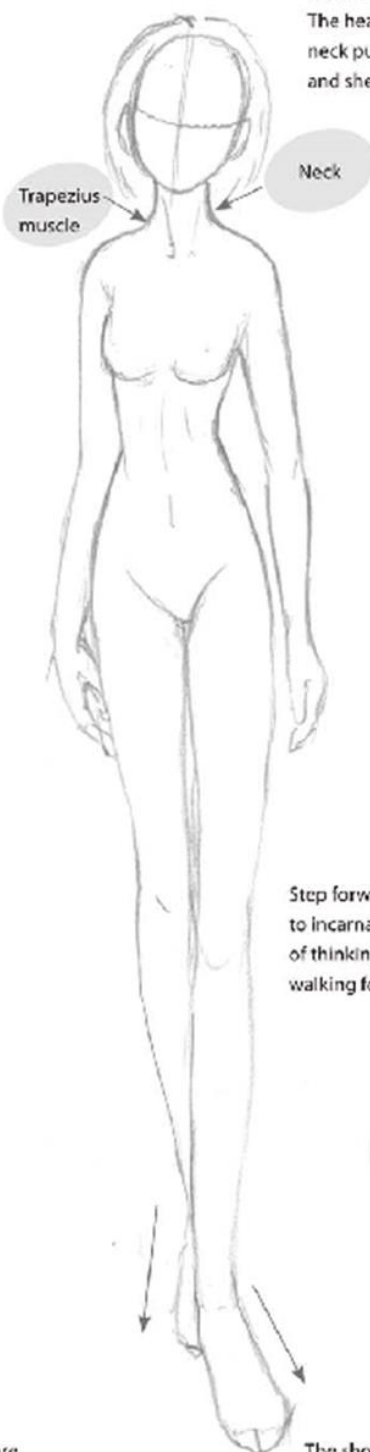
### ● Slim type

**The neck directs movements.**

<Design concept>

This is a thoughtful type. She will think over the reason for walking while walking, and we need to show it up.

The head leans forward, the neck puts forth strength slightly, and she walks in half steps.



Step forward normally to incarnate the feeling of thinking while walking forward.



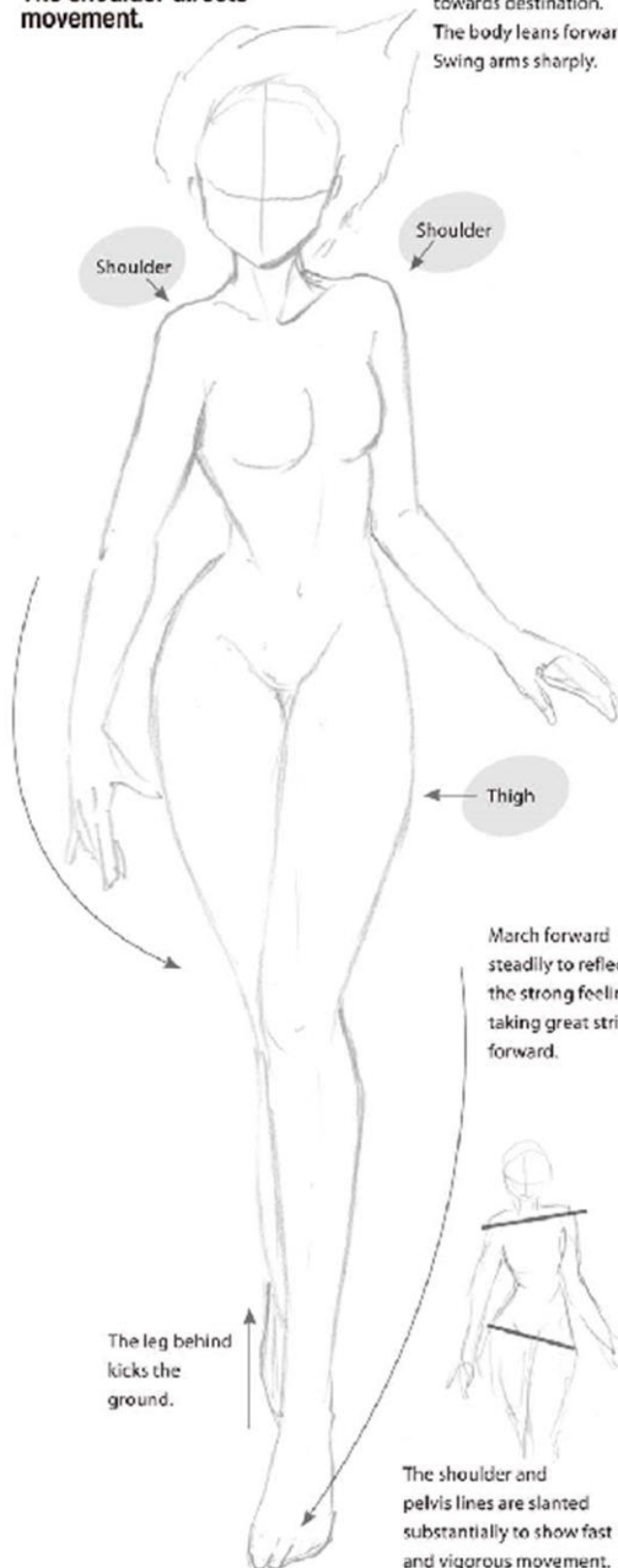
The shoulder line is basically horizontal.

The shoulder line is basically horizontal, and the pelvis line slants slightly to create a sense of slowing moving forward.

# ● Inverted triangle type

The shoulder directs movement.

<Design concept>  
Stride forward valiantly towards destination.  
The body leans forward.  
Swing arms sharply.

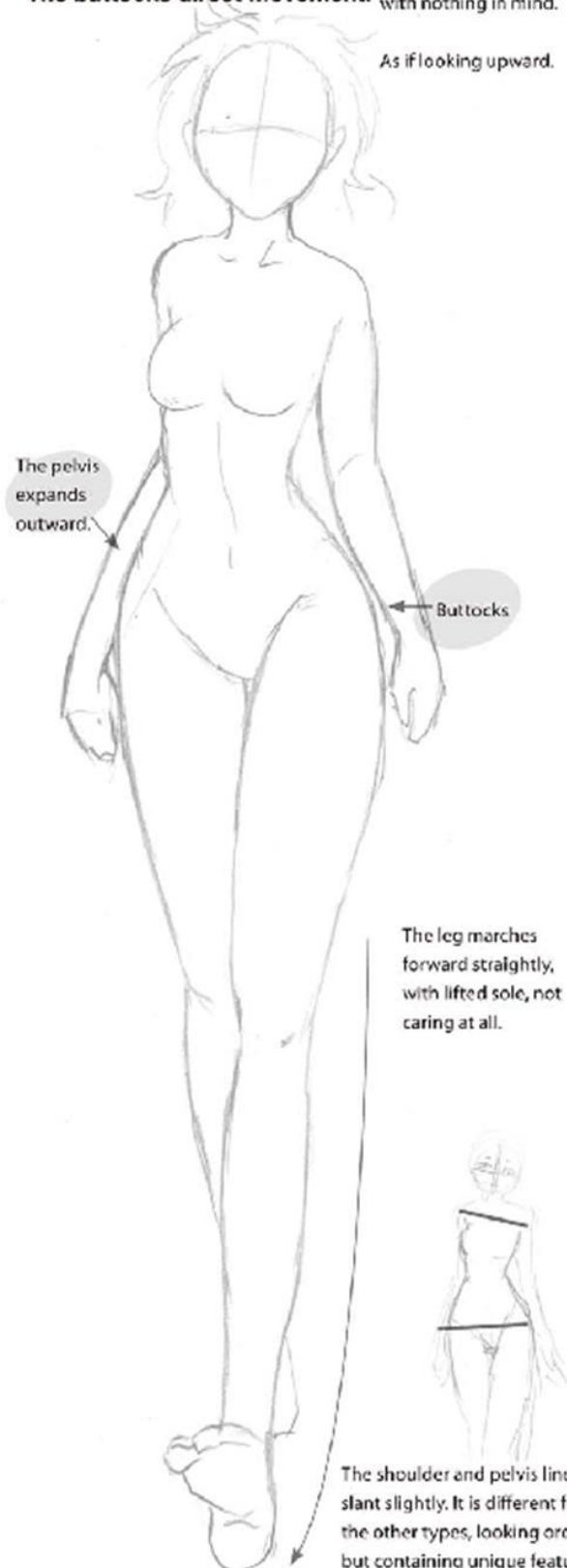


The shoulder and pelvis lines are slanted substantially to show fast and vigorous movement.

# ● Triangle type

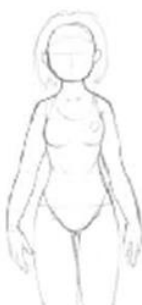
The buttocks direct movement.

<Design concept>  
Walk forward instinctively, with nothing in mind.  
As if looking upward.



The shoulder and pelvis lines slant slightly. It is different from the other types, looking ordinary but containing unique features.

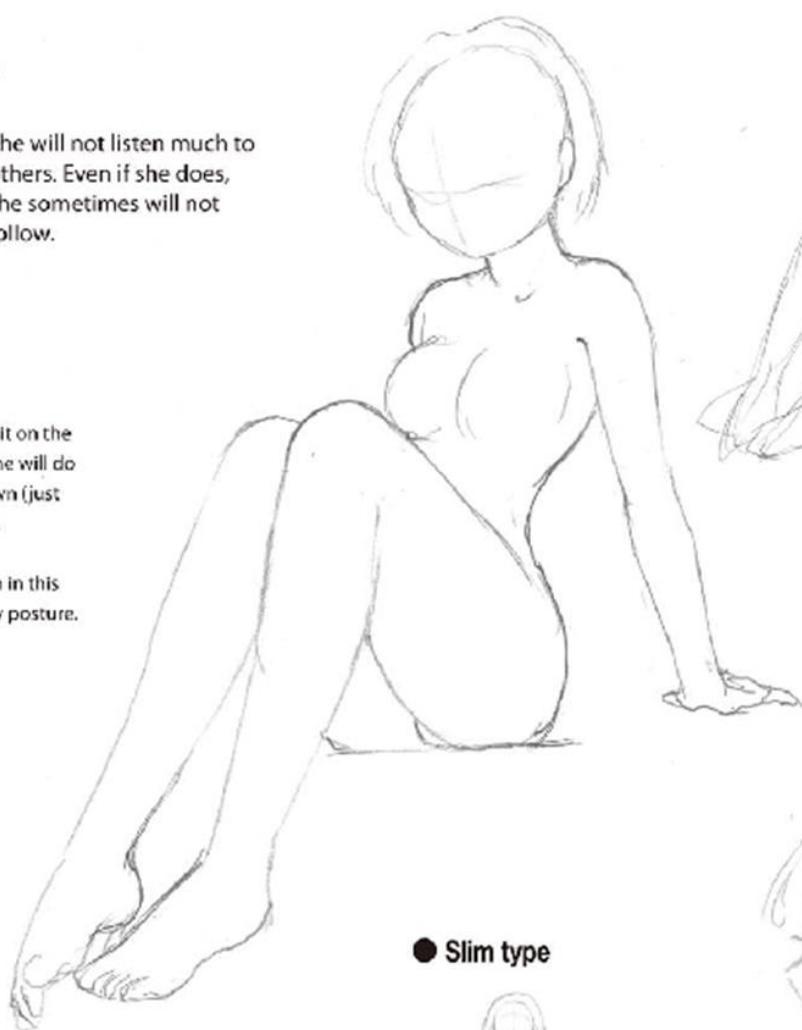
● Circular type



She will not listen much to others. Even if she does, she sometimes will not follow.

Want to let the figure sit on the ground. Sometimes, she will do it by simply sitting down (just having a general idea).

Rich emotions. As seen in this point, sitting is a lovely posture.



Rough sketch. The figure looks mellow and full. Reveal this impression when drawing the rough sketch.

● Slim type

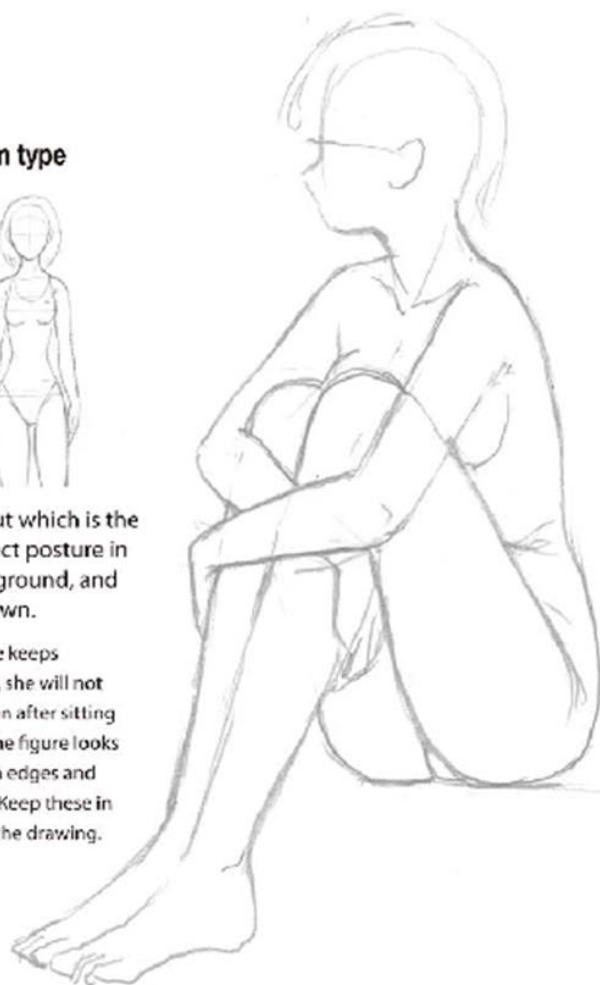


Think about which is the most correct posture in sitting on ground, and then sit down.

Since she keeps thinking, she will not relax even after sitting down. The figure looks stiff, with edges and corners. Keep these in mind in the drawing.



The body looks thin. Catch this point in drawing the big outline. Find out the top surface of the trunk.



Sketch of sitting with arms upon knees

## ● Inverted triangle



Knows what she wants, such as earning money or looking smart way. Then, takes action.

Thinks it will do to look smart. Makes a pose and sits down.



The posture is good, showing a well built body. Do not draw the buttocks too big when drawing the trunk.

## ● Triangle type

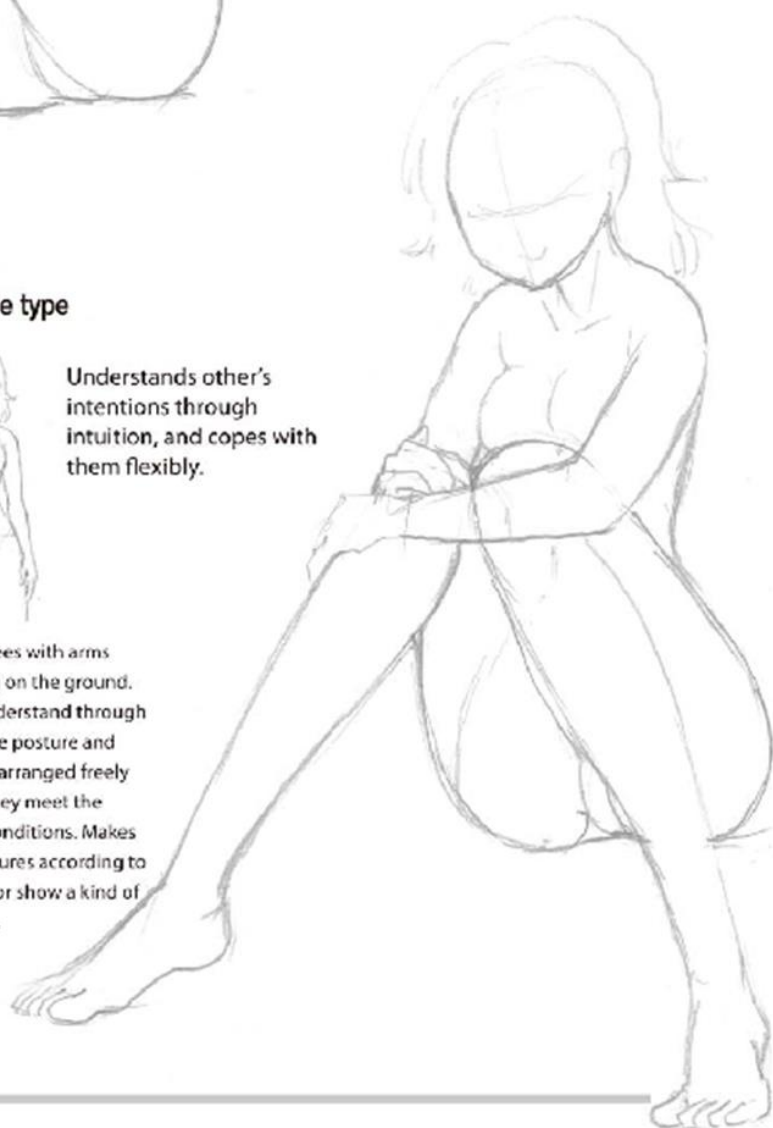


Understands other's intentions through intuition, and copes with them flexibly.

Hold the knees with arms when sitting on the ground. Judge or understand through intuition. The posture and feet may be arranged freely so long as they meet the necessary conditions. Makes various postures according to her moods, or show a kind of sexy beauty.



The upper half is circular. Draw the buttocks larger as a typical feature of the body.





# Draw up existing and dynamic figure

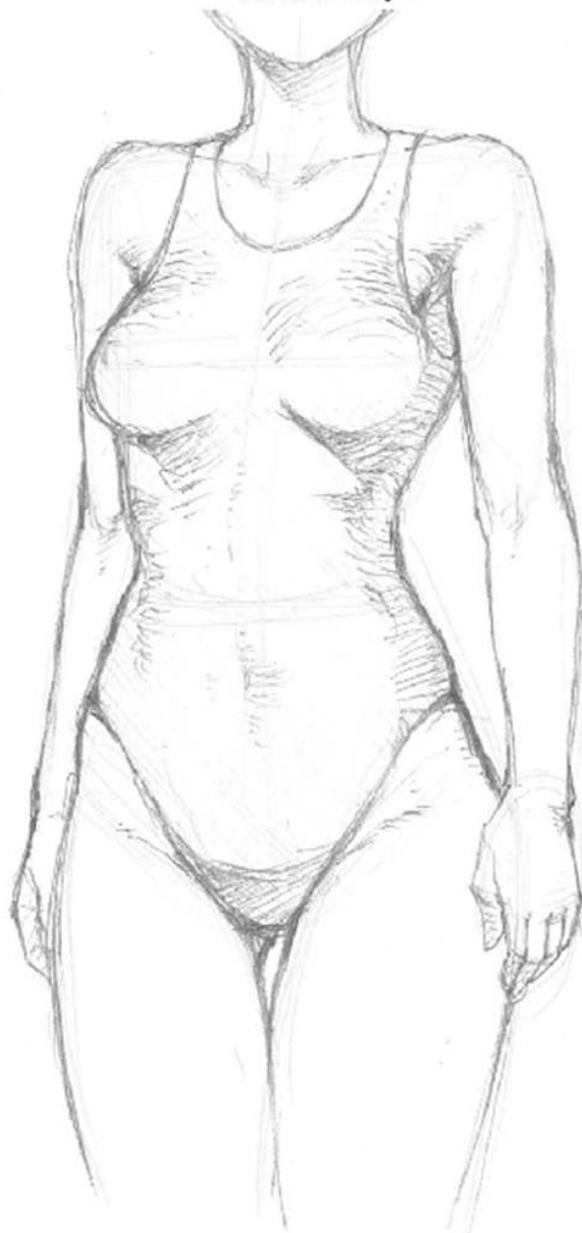
## Display plump body

Front



Fundamental type,  
without shadows.

Light source largely shoot  
from the front angle.

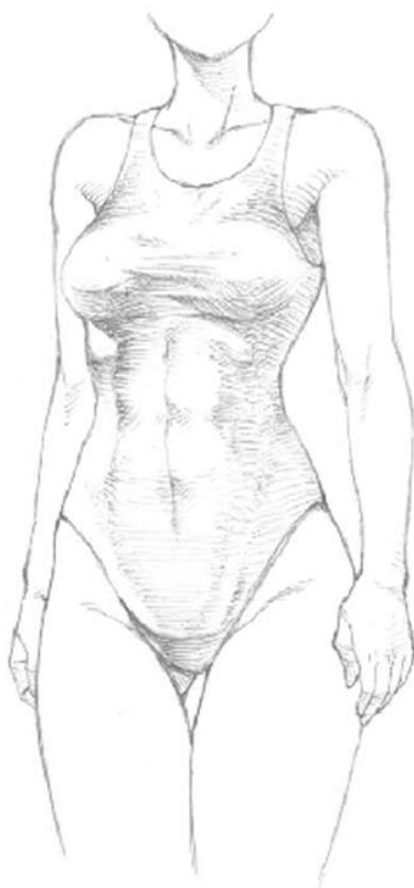


Draw up shadows to the side of the trunk,  
under the chest and abdomen.



Draw up shadow  
contour lines with  
curves for the chest  
and upper thighs, and  
deepen them.

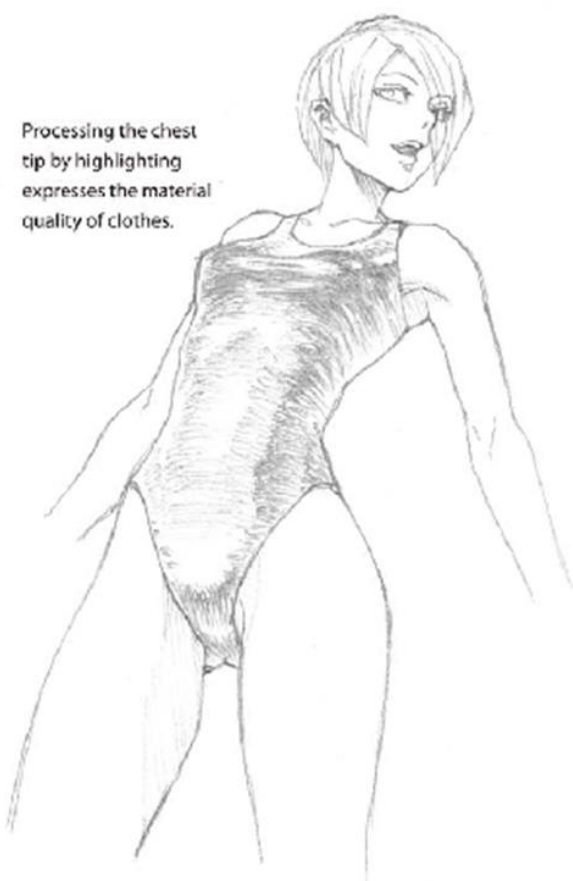
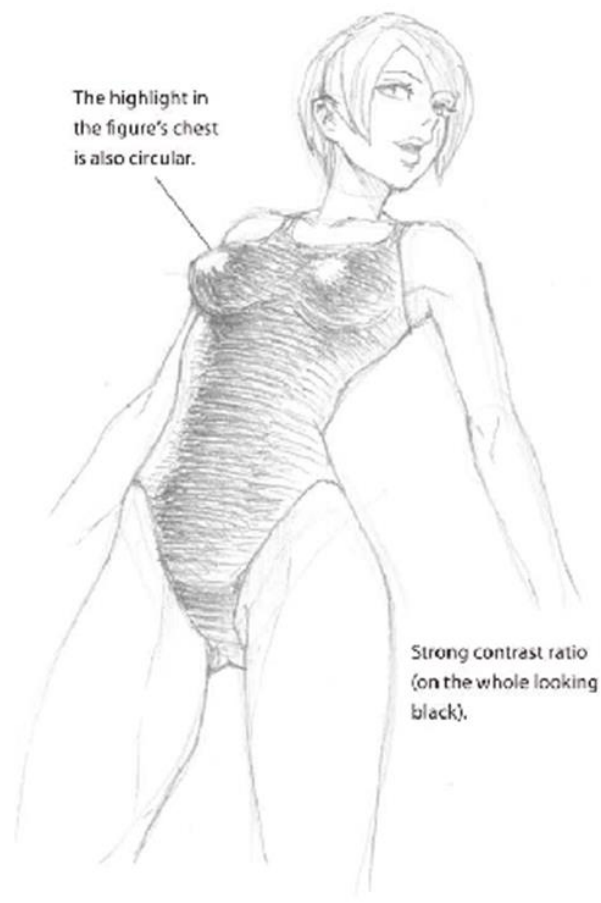
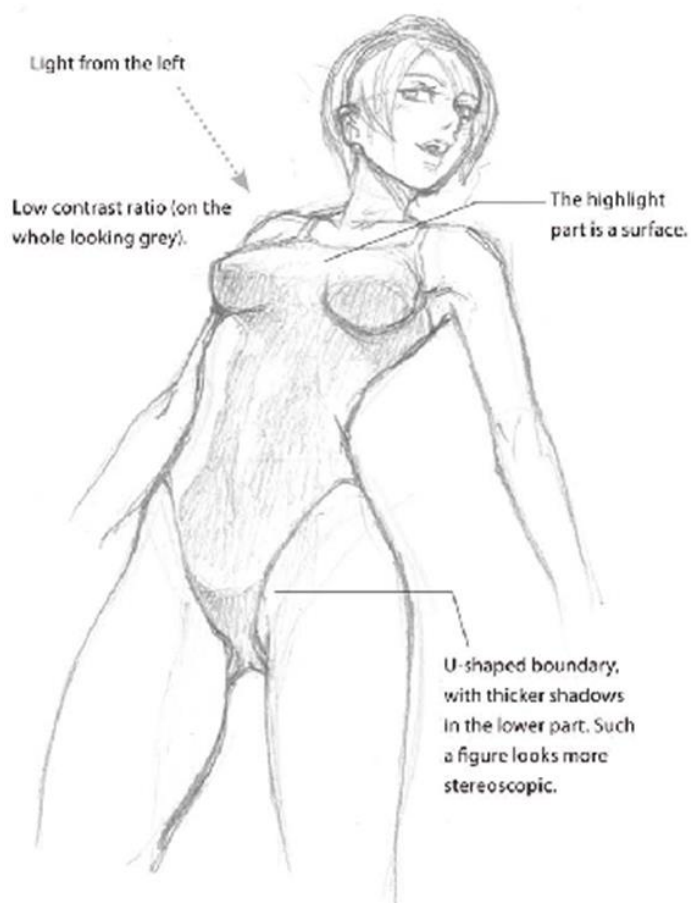
Reveal the body's stereoscopic feeling with  
shadows. Decide the light source direction first.



Draw up shadows according to  
muscle bumps.



Stress the shadows  
at the shoulders,  
chest and contracted  
abdomen.



Fewer lines are used to depict shadows when the light is weak, looking thin and light.



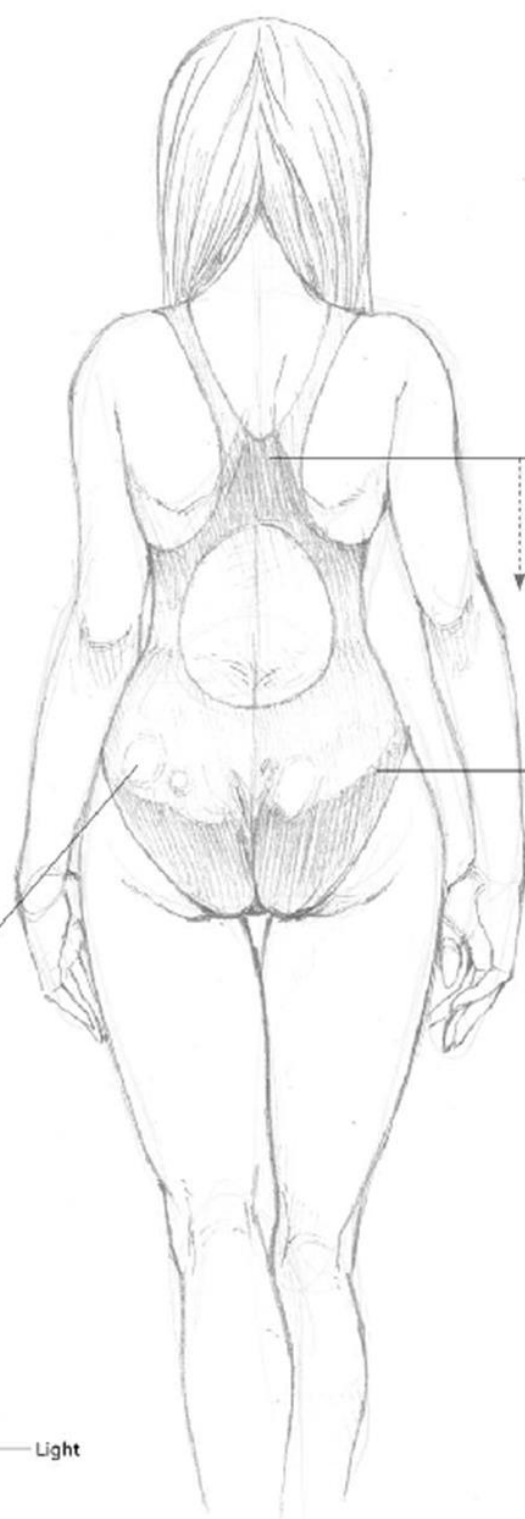
More lines are applied to depict shadows when the light is strong.

Back

Top light



Fundamental type,  
without shadows.



highlight

Gradual  
changing  
of layers

Gradual  
changing  
of layers



Light

White light (highlight)

Thick



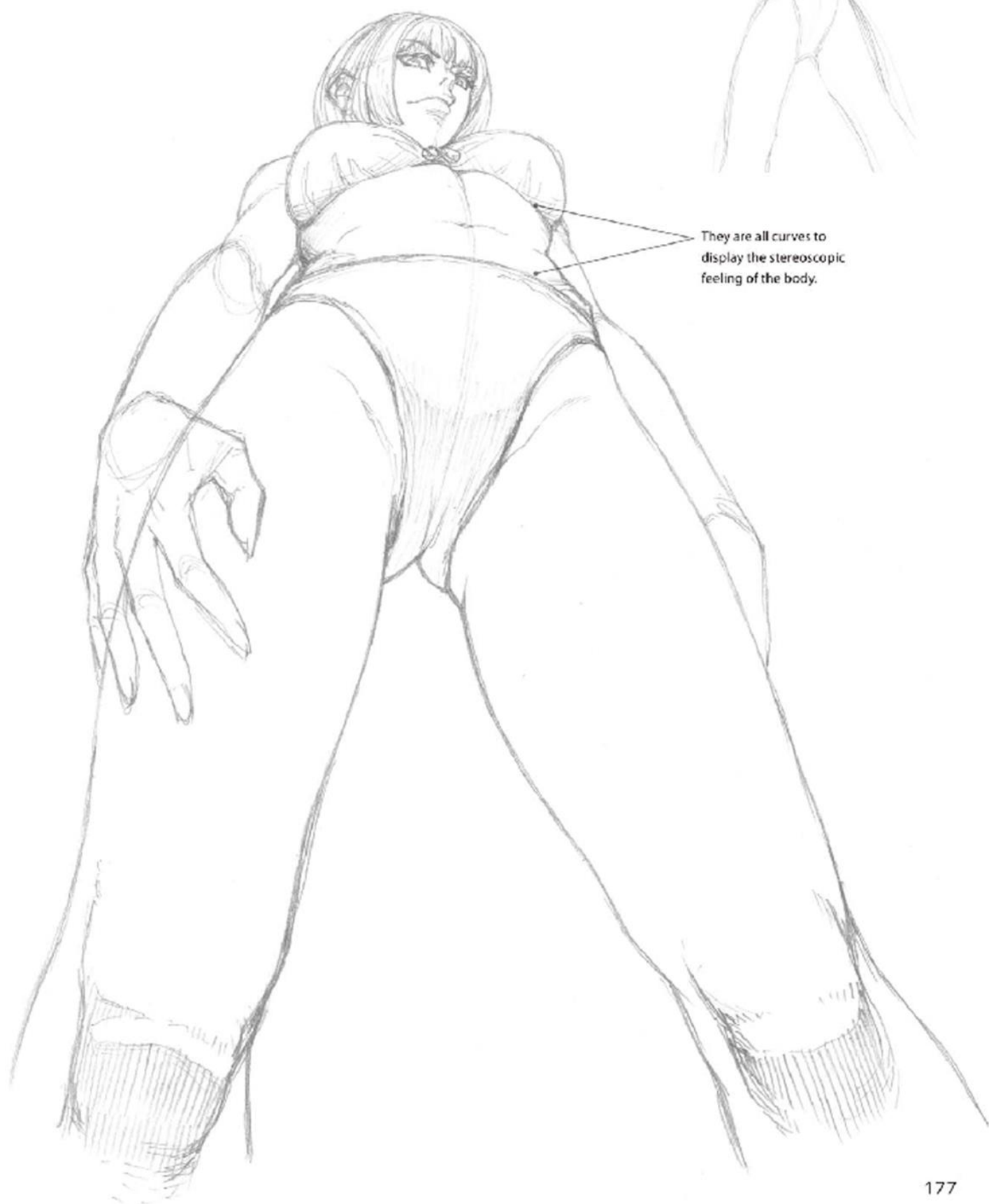
The shadows form a  
U-shaped border line  
along the buttocks.

## Revealing the body under Low angle view

Body trunk is a cylinder composed of circles. Keep this in mind in drawing.



They are all curves to display the stereoscopic feeling of the body.





## Body performance in a large movement

### Springing posture

Remember we may display the figure in various angles in the drawing. The angle of elevation and the wide angle will make the figure bold and vigorous.



Narrow low angle view



Narrow low angle view



Low angle view + narrow wide angle





Narrow high angle view + wide angle



High angle view + wide angle



High angle view + wide angle

## Kicking the leg

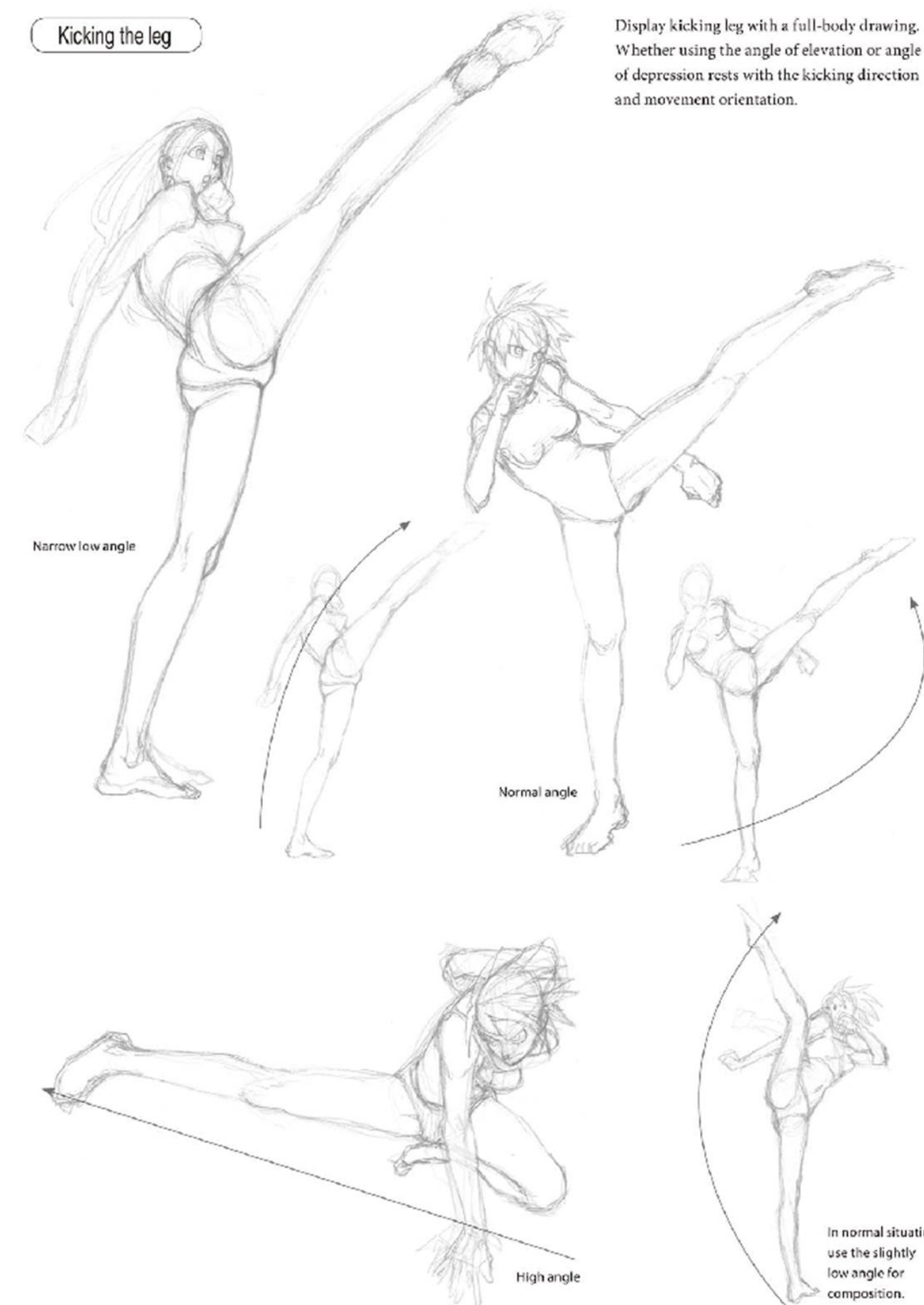
Display kicking leg with a full-body drawing. Whether using the angle of elevation or angle of depression rests with the kicking direction and movement orientation.

Narrow low angle

Normal angle

High angle

In normal situations, use the slightly low angle for composition.







# Key points for professionals in designing figures

To summarize the book, we requested Kazuaki Morita to write a chapter on "key points for professionals in designing figures". Kazuaki Morita, busy at work, asked "Is it all right to draw the face only?" Seeing I made no response, he politely added "You'd better give me a theme."

"What about drawing the image of a woman warrior?" I asked. "Let me try. But this way, that would be too simple to draw the face only," said Kazuaki Morita.

I realized by then this was only a conceptualized theme, without concrete requirements. Professionals will think they only need to draw a replied face.

"Thank you so much for that," I said.

Hence, the manuscript with textual descriptions was delivered to the editorial department quickly.



## Sketch 1

Drawn out directly according to imaginations. The general design is fundamentally completed at this stage.

Modify it with the design drawing, or add up other feelings to the images.

The designs at the time were:

- Uniform + armour
- Sense of top student (Kazuaki Morita)



## Sketch 2

Draw up the figure's back to harmonize with the frontal impression. Find out the best sense for the drawing.

Kazuaki Morita said "Sketch 1 was directly drawn according to the designs."

We will find out here that the elements of the original design were "uniform + armour" (overall and outline designs), and the "sense of top student" (role of the figure).

The fundamental concept of such a figure was formed by accident. This is the basis of figure design.

Soon afterwards, there came three pictures to determine the sense of the upper body.

Sketch 3



Here, the head ornaments, left arm armour, chest part, shirt-front, and girdle are all adjusted according to the angle of looking up. The figure design becomes more explicit. The designer keeps asking himself what the figure lacks in image.

Sketch 4



This is not drawn randomly. On the basis of the figure in sketch 1, Kazuaki Morita presented two options. One is sketch 4, which is an experiment to show the figure in a opposite image to the original picture, relating to the body, skirt, left arm armour, head ornaments, and legs, except for the facial features.

### Sketch 5



This is a type to expose large parts of the body. The head ornaments are gone. The arm armour and skirt are abandoned. We see the traces of original manuscript only in the collar. This is practically a work exploring "whether we are able to express the sense of top student without armour and ornaments." This is a bold experiment of Kazuaki Morita in figure design.

Drawing the sketches of figures is normally done on the basis of communicating with clients. The figure is modified repeatedly to improve the senses. It takes a long time. This time, we did not elaborate on any details. We assigned the task to Kazuaki Morita for independent decision. So, Kazuaki Morita assumed we had clients with various priorities, and experimented to draw figures with opposite senses.

To the professionals, it might seem unprofessional to express his imagination so freely.

In other words, it runs against the professional spirit in figure designing to draw up the figure as he wishes.



Another design of figure

### Sketch 6

Refine the head ornaments of the original design program.





## Complete



## Comment

Complete the figure design fundamentally.

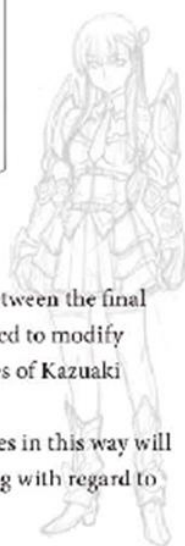
### Key points

- Remember to differentiate the density of lines of the parts for contrast in the course of design.
- Do not make the overall impressions too dull.
- Do not spend too much time.

This is the full course of design.

Now you need to be aware of the differences between the final draft and first draft. Please think about 'the need to modify them and how to apply it' according to the notes of Kazuaki Morita.

Only by thinking and accumulating experiences in this way will we become more experienced in sketch drawing with regard to figure design.





Master drawing after processing



Drawing and grey processing: Kazuaki Morita  
Narrator: Hikaru Hayashi



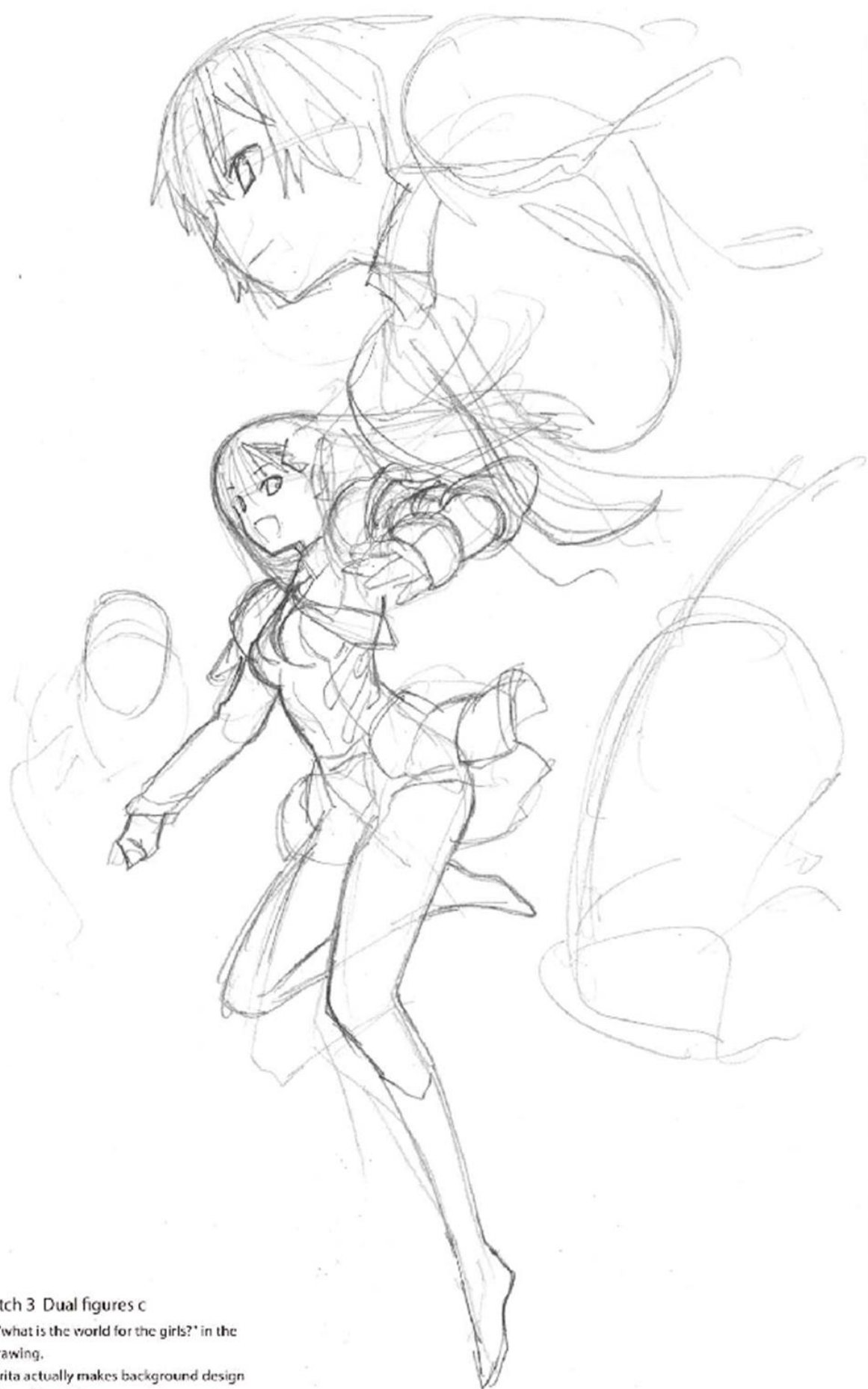
Cover sketch 1 Dual figures a  
Set the main figure and the experiment figure  
for figure design as comrades-in-arms.

Cover sketch 2 Dual figures b

Lighten the color of the back figure slightly so as to set off the front figure. (Kazuaki Morita)







Cover sketch 3 Dual figures c

Think over "what is the world for the girls?" in the course of drawing.

Kazuaki Morita actually makes background design for that. (Hikaru Hayashi)



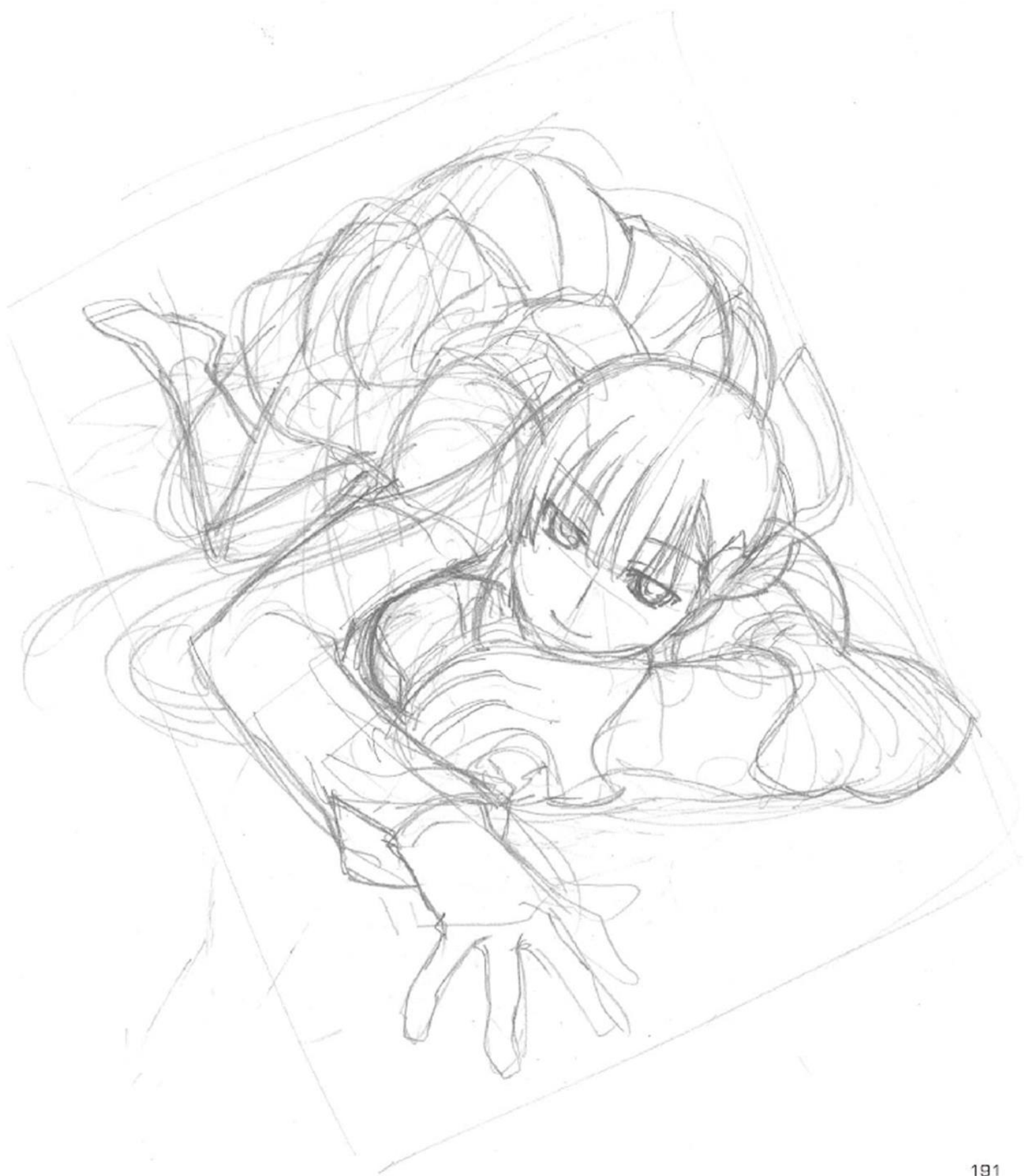
Cover sketch 4 Single figure a

Turning around under the angle of overlooking. If this program is adopted, it will make readers think the book is on armour and clothing design.



Cover sketch 5 Single figure b

On occasions, we will think of drawing a figure like this. It will feel dull if we do not draw something unique...



Cover sketch Final draft  
It should look this way.



#### About Kazuaki Morita

Kazuaki Morita was born in Shizuoka Prefecture, Japan. He learnt from Master Shiro Ohno as a cartoon assistant in 1996. Since 1998, he joined Go Office to produce cartoon technique books, responsible for cover picture drawing. Since 2000, he began to design figures for computer games and make original creations. He entered Logistics Company in 2002, working at Team Till Dawn. He participated in figure design, original creation, drawing supervision and illustration drawing for the PS2 game *Tear Ring Saga 2* -- *Berwick Saga*, and animation work *Seto no Hanayome*.





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